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# GLEANNINGS

## IN BEE CULTURE

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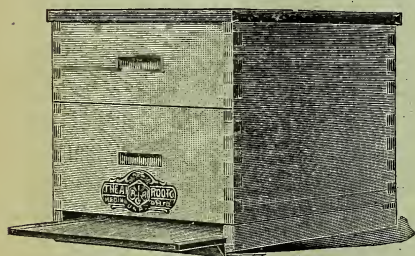
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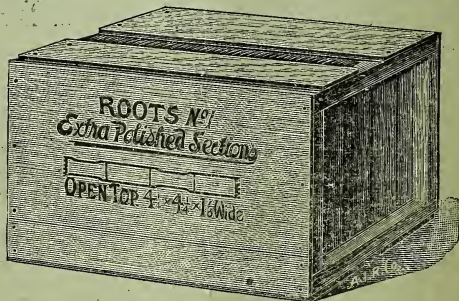


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# The A. I. ROOT Company,

144 East Erie St., CHICAGO, ILL.

# GLEANINGS

A JOURNAL DEVOTED  
TO BEES  
AND HONEY  
AND HOME  
INTERESTS.

## BEE CULTURE

ILLUSTRATED  
SEMI-MONTHLY  
Published by THE A. I. ROOT CO.  
\$1.00 PER YEAR MEDINA, OHIO.

Vol. XXXII.

JUNE 1, 1904.

No. 11



THE LAMENTED *Revue Internationale*, Mr. Ed. Bertrand, editor, has a successor in *Bulletin de la Societe Romande d'Apiculture*, which opens up well with good ability back of it.

G. J. YODER's plan of putting foundation in sections will make nice work at top and sides; but do you think, Mr. Editor, it will be all right at the bottom with that  $\frac{1}{4}$  inch space between starter and bottom-bar? In this locality I don't believe it would be built any better to the bottom-bar than if the section were only one-fourth full of foundation. [You are probably right.—Ed.]

PASTOR FLEISCHMANN, in *Ill. Monatsblätter*, speaks in complimentary terms of the Jefferson extracting-wagon (January GLEANINGS), with its ample provision for ventilation, as compared with the German wagons with their "bake-oven heat." [Yes, indeed, the Jefferson wagon is a good one. I believe it to be so good that I have incorporated it in the next edition of the A B C book now on the press.—Ed.]

"TO PREVENT swarming, foundation is to be preferred," page 503. That probably means that a swarm hived on foundation is less likely to swarm again the same year than if hived on full combs. If so, isn't it because more rapid progress is made with combs than with foundation, and isn't rapid progress the very thing we want? With many there isn't one chance in fifty of a swarm swarming again anyhow, whether hived on combs or foundation.

F. N. SOMERFORD has my hearty sympathy in his condemnation of Hoffman frames, but not because they "place too much wood between the brood and the super for comb

honey," page 489. If the sections are too close to the brood-frames it favors carrying bits of black comb from the brood-combs to finish sealing sections. [If a manufacturer could make a brood-frame that would suit everybody in every particular, and could have the exclusive manufacture of it, he would have a bonanza. But he will never get the frame nor the bonanza.—Ed.]

AN UNCAPPING-PLANE is described in *Illustrierte Monatsblätter* as the latest. The bit of the plane is an uncapping-fork. In 60 seconds it uncapped 3 combs, and left the cappings *perfectly dry*. Of course, it wouldn't work well on a very uneven surface. [Judging from the illustration only, I should say that a very rough burr edge would be left to the tops of the cells. These little fins or bits of wax would clog the wire cloth in the extractor. I should like to have you watch and see whether any thing more comes of it.—Ed.]

WHEN I READ about A. I. Root's visit to those greenhouses, with all those roses, p. 507, how I did wish I could have been along! Honest, now, A. I., wouldn't you have enjoyed it more if I had been along? [Yes, doctor, I should have greatly enjoyed having you along to look at the roses; and I made up my mind then to write you to pick out the biggest commercial greenhouse in your neighborhood, and the next time I go that way you and I would go through it together. I should want to take plenty of time, and not be rushed as we were when we went through the aquarium on Catalina Island.—A. I. R.]

THAT FOUL-BROOD LAW of Ohio, in spite of some spots where the language needs tinkering, is a fine law. I wish we could have as good a one in Illinois. Section 8 says, should any one "conceal the fact that such disease exists among his bees." Just what constitutes concealment might be a nice point to determine. Would it be concealment to keep entirely quiet about it? [Suppose the bee-keeper should let an employee or neighbor, or both, know that he had the disease, but tells them to keep quiet about it. Suppose, later on, the employee



becomes dissatisfied with his boss, and should "squeal" to other bee-keepers. If the neighbor had bees it would be to his interest to "squeal" also. The fact of concealment could be very easily established in court.—Ed.]

WASN'T YOUR FRIEND a little off in his arithmetic, Mr. Editor, p. 481, when, upon being told that a \$5.00 colony yielded \$10.00, he exclaimed, "What! clear 100 per cent off from the investment"? "In this locality" it would be 200 per cent on the investment. [You will notice I used the words "clear 100 per cent off from the investment." It is true that ten dollars would be twice as much as five, or 200 per cent of that amount; but when I said *clear* 100 per cent, I meant 100 per cent clear of all expenses. Perhaps the wording was a little unfortunate. It would be perfectly proper to say 200 per cent on the investment; but I did not say that—I said "clear."—Ed.]

O. O. POPPLETON, p. 482, prefers to kill all the old bees in a case of paralysis, saying it "is done without destruction of any thing of value." Is it possible that the disease is so bad down south that the bees are of no value? I feel sure that as far north as this the honey they would store would make the sulphur-sprinkling treatment the better way. [I rather judge that friend Poppleton does not consider paralytic bees worth very much. In a locality with long warm seasons, bees are not nearly as expensive as in the North, where the seasons are shorter and the winter losses sometimes severe. I am, therefore, of the opinion that Mr. Poppleton could raise healthy bees from healthy stock cheaper than he could fuss with paralytic bees. But a northern locality might make the sulphur cure more feasible, and easier to carry into effect.—Ed.]

THE TOTAL AMOUNT paid in a year to all the wage earners, salaried officials, clerks, etc., in the whole United States, was \$2,736,044,884, and the annual drink-bill was \$1,410,236,702. According to that, for every dollar paid in wages or salaries 51 cents was paid for intoxicating drink. Doesn't seem possible, does it? [If we were to add the county infirmaries, asylums, hospitals, and jails necessarily made larger because of this iniquitous traffic, saying nothing about the woe and misery, we would possibly have to add another 51 cents, which would make the total equal to the wages of Uncle Sam's employees. It is the curse of all civilized nations; and if the good people of our land would invariably scratch the liquor candidates in their votes, the evil would be outlawed, and in time be wiped out.—Ed.]

ALLEN LATHAM never has a driven swarm abscond, and gives in *American Bee Journal* his plan of treatment: "Three sticks about six feet long are tied together at one end, and then spread apart and set up as a tripod. There is then tied to the top a branch suitable for a swarm to cluster

on. The colony to be driven is set aside, and the tripod placed over the old stand. The bees are then shaken out by the old stand, old and young. After an hour or so the bees will all be clustered like a natural swarm upon the branch and should be left thus for about half a day. They may then be hived anywhere, and will stay as well as a natural swarm, and will work nearly if not quite as well." [This seems like a good idea. Mr. Latham carries out forced swarming in its entirety. We shall be glad to get reports from our readers as to how the plan works, and whether better than the ordinary forced swarm, by shaking or brushing the bees directly into the brood-nest in the first place.—Ed.]

RIETSCHER WAX-PRESSES are used by the thousands in Europe, but not at all in this country, and it has seemed a wonder that American bee-keepers were not enterprising enough to follow the example of their transatlantic brethren instead of buying all their foundation ready-made. [I suppose the principal reason is, there is no one on this side of the Atlantic to push it. We were seriously considering the matter of introducing it in this country; but the preliminary tests we made with the machine sent over direct from Germany were far from satisfactory. Its operation was a messy job at best, and, worst of all, we were not able to get out any medium, much less light-weight, foundation. It would, therefore, be cheaper for American beekeepers to buy foundation at less weight, if they consider labor an item, than to buy a press and use up from 1½ to 1¾ pounds of wax where they ought to use only about a pound.—Ed.]

W. E. LITTLE's letter, page 505, suggests some questions. "By a little practice you can move a light line with a plumb, by just concentrating your mind on it." How much practice does it take, and why can't you do it the first time as well as after practice, if you concentrate just as hard the first time as last? and must you concentrate on the line or the bob? And in that case where the doctor pounded the liver so hard he could "hear the bile slop about," did the "suggestion" have any thing to do with the slopping, or only with the hearing? [Now look here, doctor. Even if you do not have faith in the plumbline, you and I both should be careful about hurting the feelings of the dear brother who *does* believe. While I write, another brother suggests that although the operator and other witnesses saw the plumbline move in response to their will power, it might not have moved at all—that is, so that a scientific apparatus would record the movement. And this throws "daylight" on the whole matter.—A. I. R.]

REPLYING, Mr. Editor, to your question, page 480, it is a hard thing to get an exact measure of the amount of adulteration in Europe as compared with this country; but if you were to see all that is said in the

European journals about it, you would likely agree with me. Artificial honey is advertised in Germany as it is not here, and that even in one of the bee-journals. However it may be about adulterated honey, I know that adulteration of foundation is not practiced in this country as in Europe. Thousands of Rietsche's foundation-presses are in use there, and I used to wonder why they were so common there and could make no headway in this country. I think it lies chiefly in the fact that it is so hard for the European bee-keeper to get pure foundation unless he makes it himself. One sample on the market showed 28 per cent of beeswax only! The American bee-keeper never gives a thought to the question whether the foundation he buys is pure. [I have before stated, but it will bear repeating, that all Weed foundation necessarily has to be made of pure beeswax. The Weed sheeter will not handle wax adulterated with paraffine, ceresin, nor any of the cheap mineral waxes of commerce. Some years ago the dental trade called for a mixture of half wax and half paraffine. We endeavored to meet the demand on a Weed sheeter; but it balked, and we had to give it up as a bad job. We have been able as a consequence to supply the dental trade with only pure wax. As a very large per cent of all the foundation made in the United States is made by Weed machinery, it is simply impossible that such percentage could be adulterated.]

The remainder, made by other processes, is probably equally pure, for the reason we do not believe there are any foundation-makers in the United States who would put out adulterated foundation, even if they could. The foundation-maker who would attempt to furnish his trade with adulterated goods might expect to shut up his shop within a year. If Rietsche wax-presses are used in Germany because of the great amount of adulterated foundation on the market, there would be a very small demand for the Rietsche presses in this country for a like reason.—Ed.]



In a private note to me, Mr. Danzenbaker makes the following explanation of certain things that need explaining. It makes every thing clear:

*Bro. Stenog:*—I have been for years recommending Medina queens to all my bee keeping friends as the best in the world; so that I acted consistently in taking a Medina queen to double the joys and happiness of my life and home. Was it not more a matter of fixed faith than a new "theory" carried into practicing as I preached?

St. Louis, Mo.

F. D.

A long acquaintance with Mrs. D. makes it an easy matter for me to say that Mr. Danzenbaker is to be congratulated on the wisdom of his new move.

A Spanish paper, *El Agricultor*, published in Cuzco, Peru, says:

Children should have pure honey frequently, and in liberal quantities. Warm milk with honey and brown bread, or, better, unbolted flour, is an excellent lunch. If you wish for long life, be sure that this favorite dish of the ancients—honey and milk, be never wanting on your table. This is one of the most healthful and nutritious dishes.

What is called "Columbia" foundation is attracting considerable attention in Germany. Extremely thin sheets of tinplate are run between steel rollers having exactly the outward appearance of ordinary foundation-rollers. These are then dipped in wax of the right temperature, and used like common foundation. Just what this will amount to, time will tell.

*Vcela Moravska*, a Bohemian bee-journal, gives in its May issue a list of 139 bee-books, dating from 1759 down to the present time, none of which I have seen before. They are nearly all German. What the total number is I do not know. This shows not only the great amount of literature the bee has drawn around itself, but the wonderful amount of study the Germans have devoted to apiculture. All the books published on bees, from the very beginning, would make an immense library. Stranger still, the number shows no sign of decreasing.

#### AMERICAN BEE JOURNAL.

The Old Reliable is full of interest as usual, and Mr. York is evidently doing his best to make a first-class bee-journal, and he is succeeding.

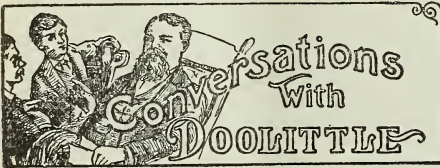
The editor clips the following from the *Chicago Record-Herald*:

Honey is a valuable medicine, and has many uses. It is excellent in most throat and lung affections, and is often used with great benefit in place of cod-liver oil. Occasionally there is a person with whom it does not agree, but most people can learn to use it with beneficial results. Children who have natural appetites generally prefer it to butter. Honey is a laxative and sedative, and in diseases of the bladder and kidneys it is an excellent remedy.

Mr. C. W. Blakely, of Illinois, says, "I will say I have tried the plan of making my own hives, but found out that it cost me more to buy the lumber and hire men to make them than they cost me at the factory; and then they would not be cut and fitted like the hives we get at the factory." Right in the same line a correspondent of the same journal, writing from Iowa, asks, "Who ever saw a plea for home-made hives in a bee-paper whose editors were engaged in the supply business?" I have. The subject has been discussed with perfect fairness in GLEANINGS for a long time. The lack of fairness is more apparent in the insinuation involved in the question. If some are so situated as to be able to make their



own hives cheaper than they can buy, the editor of GLEANINGS will be glad to herald the fact and tell how. The G. B. Lewis Co. say their trade was never so great as now, and Mr. York gives it as his opinion that not many have found it cheaper to make their own hives. But this is a question that each one is at liberty to settle for himself by actual trial. It's a good deal like making doors and window-blinds—a few can do it by hand, but the most of us will find it cheaper to buy. The severe language used by some in criticising the advice of bee-editors is certainly uncalled for, and always indicates a sense of weakness on the side defended. "Kind words can never die." Ugly ones have considerable vitality sometimes. Right here is another paragraph from a writer in Alabama, in regard to home-made hives. It is in the issue for May 12, the last one at hand: "I think Mr. Gill and others are right in trying to get bee-keepers to make their own hives. Such goods are getting too high. I can get all-heart, long-leafed pine, dressed on one side, for about \$13.50 or \$15.00 per 1000 feet."



#### HYBRIDS OR ITALIANS, WHICH?

"My name is Jacobs, and I came to see if you would give me a little of your time for a bee talk."

"I have never refused to talk bees with any one, and I shall not try to begin with you. What is it you wish to talk about?"

"If you were breeding bees especially for honey-gathering purposes, which would you prefer—the hybrids or the dark or golden Italians?"

"That depends somewhat on what kind of honey I was working for. Volumes have been written on this subject, and the matter is not fully settled in the minds of all, even at the present time, some preferring one and others a different bee from the first. Some of our very best honey-producers tell me that they do not know which is best; but from my standpoint a true solution depends upon which we are producing—comb or extracted honey."

"Which would be your choice were you working for extracted honey?"

"If I were working for extracted honey exclusively I think I would select the darker Italians, or those produced from queens reared from an imported mother, allowing these queens to mate with whatever drones there were in and about the apiary, paying no attention to whether these drones were from Italian, hybrid, or black stock."

"Why do you say this?"

"Because such queens, mated indiscriminately, would be sure to give workers of the most active kind, which would pile in the honey if there was any to be had."

"How would you breed for comb honey?"

"If I were working exclusively for comb honey, then I would procure as good a queen of the golden variety as possible, and rear all my queens from her, allowing them to mate with any drones they might chance to meet, the most of which would, without doubt, be from an entirely different blood from themselves, which would give a direct cross, which always produces worker bees of great vigor."

"Why would you do this?"

"Besides the vigor already alluded to, in accord with the way you asked the question, I should not care one cent whether my yellow queens mated with drones from black or hybrid stock, as all of my experience goes to prove that the thoroughbred golden Italian queens, mated to drones of either black or hybrid stock, give bees equal to the very best for comb-honey purposes."

"If this is so, why do we read so much about allowing only drones from the best Italian stock to fly? And why was the drone-trap invented to catch and kill off all drones, except from the colony or colonies having the best Italian drones?"

"If I am right, such advice comes mainly from the standard of a queen-breeder."

"Well, why would you not rather take that advice, instead of allowing a promiscuous mating of queens?"

"The vigor part is one of the reasons. And then I should prefer not to have these young queens meet drones from young queens reared from imported mothers, or from drones reared from an imported mother, if I could conveniently hinder the thing—not because they would not give bees just as vigorous, and of just as good honey-gathering qualities, but for the reason that, as a rule, workers having much imported blood in them not only do not cap their honey nearly so nice and captivating to the eye as do those having more of the golden, hybrid, or German blood in them, but they are prone to store as much as possible of their honey in the brood-chamber, instead of going into the sections readily, as all honey-producers, having comb honey as the objective point, want their bees to do."

"I did not know that there was very much difference along this white capping and brood-chamber honey-storing line."

"Others have told me that they could see very little difference; but I can only think that these are not very close observers; for with me there is a great difference, and an experience with both of these strains of Italian bees compels me to say that, for comb-honey production, the golden Italians stand twenty per cent ahead as to storing in sections, and thirty to forty per cent ahead of the dark Italians in whiteness of capping, some of them almost if not quite equaling the black in this respect,



though none of the Italian races use so much wax in capping their combs as do the bees of the German variety. And I say this after having kept both side by side in my out-apiary all these years, and having of both varieties from very many of the best queen-breeders in the world."

"But back a bit you said, 'in accord with the way I asked the question.' What did you mean by that?"

"You asked the question, as I understood it, purely from a *honey-producer's* standpoint. A queen breeder can not work along the line a honey-producer can, for his stock must be conforming as nearly to the best thoroughbred Italians as possible. No one wants to invest in hybrid bees for breeding purposes."

"How is that, if they are as good for honey as any of the pure races?"

"Because when you come to breed from hybrids you have no certain way of knowing what you are doing, nor that you are securing a direct cross. Such breeding has nearly always proven that, unless you had something of known goodness in the Italian mother, after a little an inferior grade of bees in every way was the result."

"These thoughts are new to me, and I shall think on them, and try to observe more closely than I have done. I will go now."

"Just a moment. Let me sum up so you can readily remember the points made. First, have your queens mate with drones as distantly related to the queens themselves as possible; second, use queens as closely related to the imported or dark Italian stock as possible, where working for extracted honey, for there are no bees in the world, in my opinion, that excel such for gathering and storing honey in combs already built, and in close connection with the brood. Third, where white capping of combs and a readiness to enter the sections is the object worked for, as is the case when working for comb honey, then choose the golden Italians, on account of their qualities in that direction."

"Thank you."



WHILE the winter was severe and the spring backward, conditions during the past week or ten days have been very favorable for bees. There has been warm and even hot weather, with frequent showers. Fruit-trees are just now, May 25, out of bloom.

#### WINTER LOSSES IN WISCONSIN.

A CAREFUL estimate made by Foul-brood Inspector N. E. France, also General Man-

ager of the National Bee-keepers' Association, who has been traveling over Wisconsin in attendance upon his regular official duties, is that winter loss has been very heavy, very close on to 60 per cent. Clover is winter killed in the southern counties; bees have not been building up well.

#### THE GREAT DEMAND FOR BEES.

WE are having here an unprecedentedly heavy demand for bees in nucleus and full-colony form. We are shipping them at the rate of \$100 worth a day. It is well we had a good stock to draw from or we should have been sold out ere this. This seems to indicate that many bees have been lost during the past winter, for many ordered just one nucleus, or perhaps two, to make a new start.

As many bees will be shipped during the next few weeks, I wish to emphasize the importance of providing an abundant ventilation. The whole top of the nucleus or hive should be open, and covered with wire cloth. Then a board, supported and nailed about two inches above the wire cloth, should be provided to protect it from being jammed or broken into, and to shade the bees if they are put in the sun by express agents.

#### HONEY-THIEVES BROUGHT TO JUSTICE.

A SHORT time ago a man by the name of B. F. Hoy, and his nephew, L. G. Wessley, according to the *Daily Californian*, burglarized a bee-ranch belonging to F. D. Lowe, at Bakersfield, Cal. It is said that Mr. Hoy had terrorized that community for years; that he was feared, and no one dared to prosecute him. Mr. Lowe concluded it was about time to do something. He appealed to the National Bee-keepers' Association to render him aid; but the directors decided that a case of that kind did not come under the jurisdiction of the organization. But Mr. Lowe followed the matter up, with the result that Hoy was convicted, and sent to the penitentiary for ten years. The other man, Mr. Wessley, plead guilty, and was given a light sentence—one year in the penitentiary—for the reason, it is alleged, he was led on by the older man, and because, further, he had a wife and baby dependent on him.

It has cost Mr. Lowe considerably more than he recovered, and he feels that the National ought to help him, as he has been the means of establishing a splendid object-lesson to other would-be violators of the law.

The lone bee-ranches in the mountains in California have been tampered with more or less by thieves; and it is a question in my mind whether the National ought not to render aid in cases of this kind. In any event, Mr. Lowe is to be congratulated for the stand he has taken in the interest of law and order.

#### NOT A FISH STORY; BARKING UP TRADE.

THIS has nothing to do with bees; and if you are not interested, do not read it. My

boy has a puppy, a cross between a Scotch terrier and a pointer, that keeps saying "Yor-ick, Yor-ick," every hour of the day; and sometimes he keeps on saying "Yor-ick" all night. Late one night while I was trying to sleep, it popped into my head that the dog was calling to another bee-editor—the one who stands for the *American Bee Journal*. I doubt whether a human being could pronounce the word more distinctly than this pup does at times. I wrote friend "Yor ick," telling him about this wonderful canine that could pronounce his name so distinctly, and that I thought I would name him *York* if he had no objections. He writes back that I must be a good interpreter, and thinks if I should send him to the St. Louis exposition he would be a great attraction for the Root Co.'s exhibit. He thinks, however, if I should teach him to say "York's honey," he could use him in Chicago. He has no objection, he says, to my using the name, but "it must be understood that the dog is to be a Prohibitionist, without any *cur-tailment* about him except his own." Then he winds up by saying, "Please excuse this doggoned letter." I have set myself to the task of teaching the dog to howl "York's honey" just as lustily as he now "Yor-icks" at night; and if I succeed I am going to put him in York's advertisement to bark up trade.

#### PUBLISHING BEE JOURNALS TO MAKE MONEY.

THE editor of the *Review*, in commenting on the fact that each year on an average witnesses the birth of one new bee-journal and the death of another, says, "If the main object in starting a bee-journal is to put money in the bank, disappointment will come as surely as night follows day;" and, further, the one who hopes to make a living by publishing a bee-paper can do so; but "if he wishes to measure success in dollars and cents he may choose from many other fields more fruitful in that direction."

OUR readers are requested to write at once a courteous letter to the editor of the *Ladies' Home Journal*, at Philadelphia, protesting against the statement made by Dr. Mary Walker, in the June number, to the effect that comb honey is manufactured of paraffine, and filled with glucose. It is *very important* that every one of our readers act upon this at once.

#### FORMALIN SUCCESSFUL FOR TREATING BLACK BROOD, BUT NOT FOR FOUL BROOD.

ONE of the most extensive bee-keepers in the United States, Mr. E. W. Alexander, of Delanson, N. Y., has contributed a valuable article to the *Bee-keepers' Review* for May. He thinks it is perfectly feasible to treat combs affected with black brood with formalin or formaldehyde; but he emphasizes the very great importance of doing the work thoroughly. Combs can not be put

into supers or hives, one stacked above another, then applying the gas, with any expectation of getting satisfactory results. They must be put into an air-tight compartment, and subjected to the gas fumes for *many hours*.

He uses an ordinary honey-tank capable of holding 4000 lbs. of extracted honey. For a cover he makes one of wood lined on the under side with sheets of tarred paper. The combs are put in suitable racks, the top is securely clamped down by means of long rods, and the combs are fumigated for about five hours. To heat the drug he uses a small oil-stove which is placed under the generator. Although he does not say so I infer that he has a tube to convey the gas from the generator to the sealed tank. Another supply of formalin is, after the first fumigation, repeated. But this time the combs are left confined for four or five days, at the end of which time he finds the combs are thoroughly disinfected and fit to use again. He has in this way, he says, fumigated over 1000 of the worst combs he could find in 1000 colonies; and although some of them contained a little capped honey and brood, he has since had no trace of the disease.

But he does not recommend this formalin treatment for *foul brood*. The combs of that disease, he says, should be burned. Very emphatically he says, "Do not waste your time in trying to save combs that contain spores and germs of foul brood. You will certainly regret it if you do. I doubt if there ever was a comb of foul brood disinfected so it would be safe to put in a healthy colony." Mr. Alexander's reputation as a bee-keeper is such that I think we can place reliance on his statements.

#### SPECIALTY AND THOROUGHNESS.

Elsewhere in the article he emphasizes the importance of thoroughness, perseverance, and specialty. He says, "I am sorry that such a large per cent of the people who keep bees do not realize the necessity of being thorough in every thing connected with the business. Far too many of them are looking for some other business to go with it, not knowing that hardly one man in a thousand is smart enough to be cut in two, and two men made of him." The editor of the *Review*, in commenting on this in a footnote, says these words ought to be "printed in gold. . . Do not forget this when tempted to be or do half a dozen things."

#### SHALL THE NATIONAL BEE-KEEPERS' ASSOCIATION AFFIX ITS BRAND OF PURITY AND QUALITY ON THE HONEY PRODUCED BY ITS MEMBERS?

THE suggestion has been continually coming to me of late whether or not the National Bee-keepers' Association, in view of the widespread distrust of all comb honey and a large part of the extracted, could not in some way place its own brand of purity on honey produced by its members, so that



the public and the large buyers would *know* that such honey was necessarily pure.

One of the York State local county societies did for a few years (I do not know whether it does now or not) brand all the honey put out by its members, guaranteeing its quality and purity. It strikes me that the National might and ought to do something of this kind. If a large part of the general public believes that comb honey is manufactured, and if it can be satisfied that a certain brand of honey is pure, it would purchase without hesitation.

It would not be very expensive for the National to have a local inspector for each large city, and have him look over each large lot of honey, inspect the shipping and way bills, and look over the correspondence to make sure that the honey was produced, put up, and shipped by some known responsible bee-keepers' society or individual member. I would assess the cost of this inspection of the honey on the producer or buyer of it who desires to have the brand of purity and quality of the National affixed to it. I would also have the inspector appointed by the Board of Directors and the Executive Committee jointly, they to examine the recommendations as to his fitness that have been received, and to apportion out the salary, such salary to be in proportion to the amount of honey examined, and in the end to be paid by the honey-producer, the buyer, or commission man who desires the National to guarantee the quality and purity of the honey. If necessary, doubtful samples of extracted can be analyzed, and, if pure, the certificate or brand of purity attached. And, by the way, we already have a chemist on the Board of Directors who is competent to make such analysis at a nominal price. (Just here I ought to say that Mr. Selser has never broached this subject to me in any way, shape, or manner.)

This same inspector might also attach his official grading on the various shipments that come in, and thus avoid a lot of trouble between producer and buyer. To have some expert grade as well as certify the purity of every lot of honey coming into Chicago would be worth much.

Perhaps this idea is too utopian to be carried into effect; but I have briefly outlined in a crude form the thoughts that have been revolving in my mind, and should be glad to hear from any one with suggestions. If a *practical* scheme can be evolved, I am satisfied that much good will be accomplished, and the officers of the National will be glad to adopt it.

#### COMB-HONEY MARKET; IMPORTANCE OF GETTING THE NEW PRODUCT ON THE MARKET EARLY.

If the reader will look over our honey quotations for the last three months he will see that comb honey has been getting dull, duller, dullest. The fact is, bee-keepers, not heeding our injunctions, have been dil-

atory about getting their last year's crop on the market. A great deal of it has been shipped *since* the holidays, when it should *always* be on the market *before*. Last fall there was not enough good honey to supply the market. All this spring there has been a glut and falling prices.

Mr. Selser, one of the principal honey-buyers of the East (and his statement is reinforced by the principal buyers of the country), urges the importance of shipping all Northern honey to market between Sept. 1 and Dec. 1. Clover and basswood should be sold as soon as taken off the hive. There is a time for a few days early in the season when the first new honey brings a fancy price. It is right here that the early bird—the bee-keeper—catches the worm.

Of course, just now is the dull or off season for comb honey; but it is duller than usual at this time of the year simply because producers were slow about getting their goods on the market. Then when they did ship, they shipped all at once and glutted the market. Many held back, thinking to get better prices; but in this they made a fearful mistake. There is a large amount of comb honey on the market now that came in too late to be sold. Some of it has been disposed of at a fearful sacrifice. We know personally of a number of commission men who have been roundly scored for selling at so low a price, when we know as a fact they did the very best they could with the market as it is.

Fancy honey sells almost any time at a fancy price; but this kind of honey is usually all disposed of before the holidays, before the second quality reaches the market, say in late winter or early spring, and then when poor prices are secured, if any at all, there is a kick, and the commission man has to take it fore and aft. We do not champion the honey salesmen, but bee-keepers need to be reasonable and fair. They need to wake up, as Mr. Selser says, and learn when is the best time to sell their honey.

It is not too early to try to impress the fact that all table honey should be sold *early*. Better employ extra help, get up a little earlier in the morning, and work a little later to scrape the sections to get them cased and off to market; and don't, *don't* ship your No. 2 (unfinished or stained sections) to the city after the holidays where they will glut the market. If possible, work them off around home. Sell among your neighbors. Peddle it out to people you know (at less price if need be) and explain to them that it is exactly as good as the fancy white honey in boxes that is so pretty to look at. I am not sure but it would be money in your pocket to cut out this inferior-looking honey, but good in quality, mix it with a first-class extracted, and sell it as bulk comb honey in tin buckets around among your neighbors who know you, and know that your product is the genuine article.

Perhaps some of our friends will think

we ought not to draw attention to a dull market for fear of depressing still more. It can't be much worse, and just now the truth should be known in the interest of the future's sake. Perhaps others may feel that we have an ax to grind as we are honey buyers. Our business in that line is very small, and we would be perfectly willing to give it up at any time. Our real interest is with the producer. If he can't get permanent good prices he has no use for bee papers nor bee supplies. Our ax is also the bee-keepers, and we feel it is *high time something was said, and forcibly too.*

#### BEE-KEEPING IN THE PUBLIC SCHOOLS.

MR. O. L. HERSHISER has been giving a series of lectures on bees before the children of the public schools of Buffalo. Beginning on the 28th of last April, and continuing till May 9, every school day, forenoon and afternoon, Mr. H. gave a lecture before a division of the seventh-grade children of the public schools. As only about 300 children could listen at a time, and there were 3500 in the seventh grade, it can be imagined that Mr. H. had to do a good deal of talking. That his lecture was highly interesting is evidenced by the numerous newspaper clippings that have been forwarded to this office. The headings in the papers show that the drones, and the stings of the bees themselves, come in for a large part of the attention of the children. It seemed very queer to them that the "papa bees" should be thrust out in cold weather after summer's laziness. The sting and its intricate mechanism, how the bee is supposed to sacrifice its life like the Spartan, was likewise enlarged on. The reports go on to speak of the shower of questions that were fired at the speaker at the end of his lecture, giving strong evidence that the children were interested, and fully understood the subject as it was laid before them. Indeed, one paper says that, so rapt was the attention, a pin could have been heard to fall at any time. At the close of each lecture a series of stereopticon views were thrown on the screen, illustrating different phases of the subject brought out in the talk. Some slides were borrowed from this office, and some others were made for the occasion.

I understand that these bee-lectures are to be a permanent feature of the Buffalo schools hereafter, and why not? If it is interesting and profitable to tell about bird life, why should it not be equally interesting and profitable to tell about bees, ants, and other insects? And if it is a good thing for Buffalo, why should it not be for other cities in the United States, and, for that matter, for every public school in the country? There are plenty of bee-keepers who are able to give interesting talks on this subject; but I fancy there are not many of them who would be able to lay it before children in such a way that a pin could be heard to drop during the entire talk.

Mr. Hershiser is to be congratulated on the success of the venture thus far; and his success will mean that the movement will probably be introduced in other schools. Bee-keepers all over the country can do a great deal by bringing the matter before boards of education. Tell them what has been done in Buffalo, and ask them to try the experiment just once. If the result is as successful as at Buffalo, the feature will probably become permanent in many other schools.

We have a very large collection of slides. Many of them, however, have been broken by being loaned out. In order to help along this laudable movement we have been thinking of having many duplicate slides made (to replace those that may be broken) showing bee-keeping from the popular point of view, so that the same can be used by lecturers at farmers' institutes and in public schools throughout the United States. We expect to have these slides under way very soon, and will sell them at a nominal price, or rent them, as may be preferred. It will probably be too late to introduce the feature in other schools this season; but if our bee-keeping friends do their duty much can be done to educate consumers on the general subject of how honey is produced, and why it can be produced in such large quantities, and yet be genuine bee honey, without any glucose about it. This is a very important matter, and I hope the National Association will in some way bring it before the public schools of the country at an early day.

The greatest difficulty we have to contend with now is ignorance as to the character and quality of our product. Over half the people suppose that comb honey is manufactured, and a large part of the other half believe that liquid honey is largely glucosed. The public need to be enlightened; and the quickest and surest way to do it is through the children. Get a child all fired up with enthusiasm, and he will tell his papa and mamma what wonderful things he has heard. Then he will want some pure honey, and his parents will have to get some, of course.

I do not know whether Mr. Hershiser started this movement or not. I should not be surprised if he did. He has been identified with quite a number of movements to educate the public concerning the wholesomeness of honey. He has been elected to high offices in the National Association and in State organizations; was superintendent of the honey exhibits at the Pan-American, and at the New York State exhibit at the World's Fair in Chicago in 1893. He has something over 400 colonies, and his crop last year was between 17,000 and 18,000 lbs. Well fitted he is professionally as a lawyer, and practically as a bee-keeper, to act as lecturer on bees before the public schools of Buffalo.

Mr. N. E. France, General Manager of the National Bee-keepers' Association, would make another good lecturer.





### QUANTITY OR QUALITY.

**A Strong Plea for a Better Article of Extracted Honey; Importance of Having All the Combs Sealed, and Left on the Hives; some Excellent Hints that will Bear Careful Reading.**

BY DAN WHITE.

So far as saying any thing through GLEANINGS is concerned. I have been silent a long time. Possibly I can not now say any thing that will be of any benefit to bee-keepers and readers; but you know we differ, and have notions of our own. I have carefully noted from time to time theories, notions, and practical ideas advanced by the different writers. Valuable things have been brought out through the different writers, and we must admit advancement on many lines. So it may be well to let all have their say. Even if some of us are cranks, may be we can find something good in what they have to say.

Of course, I never thought honey could be put in paper packages; but that very thing is being done, and it has been said right out plain in print that the honey put in paper must be well ripened.

Now, if consumers will only catch on to this (and I believe they will) it will be a grand step in the way to educate the masses that a high-grade honey *only* can be put up in paper, and the thin *unripe* stuff must be put in glass or tin. What I want to see is some way devised for extracted honey to stand up and speak for itself the same as a section of No. 1 comb honey shows up when in the market.

I will go back and say something about my experience the two past seasons. All the surplus honey of 1902 came in in nine days, and in 1903 in about ten days. Now, if quantity had been my aim I should certainly set the extractor in motion; but as quality is my motto, first, last, and all the time, this honey was left in the hives as usual until August or September; but as these months gave so few warm days suitable for extracting heavy honey, the most of the work was done in October.

I hope no one will think I save labor by leaving my honey in the hives in this way. No, sir; I go through all sorts of trials and inconveniences. Uncapping combs of thick waxy honey, cross bees and robbers (especially the two past seasons), on the alert for any move made about the apiary; but my main desire was gratified to know my customers *as usual* would get honey of the highest quality, or, in other words, as good as

liquid honey can be. Now, then, had I set the extractor in motion during this rapid flow I could have increased my yield in bulk and pounds. How easy this would have been! no robbers, no uncapping, thin honey, every thing lovely. By extracting late, as is my custom, I estimate a shrinkage of at least one third, principally by evaporation.

I have heard it advocated that even combs' honey, by leaving it in the hives several weeks, improves in quality, and I believe it. I go back to December, 1902, page 1019, and repeat the trials of a Wisconsin bee-keeper who produces more honey than he can sell. We note his experience with commission men, how he works his home market, and is at times sodisgusted and discouraged that he feels like throwing his crop outdoors. He expects some one will endeavor to soothe him by advising and talking about over-production. He claims a lack of confidence in the purity of what we offer for sale. He also notes a glimmer of light begins to illuminate the future of the bee-keepers, and that is the projected honey-producers' association.

Again, on same page, but by another bee-keeper, he says wholesale marketing will be the only real aid through organization, or devoting our time to our home markets.

We now note again some things said on page 1017 at the Chicago and Northwestern convention, and that is, co operation among bee-keepers for the purpose of selling honey. All agree that, if comb honey is put upon the market properly, there will never be any trouble in selling it. Then, again, they go so far as to say the world has never seen the time when there was too much *fancy* white comb honey; but it is the liquid honey that is the drag, and it is *this* honey that needs help in selling. Now, I feel like rolling up my sleeves and taking the attitude of a prizefighter. Don't you know if liquid honey had always been put upon the market properly there would never have been any trouble in selling? Don't you know this big world has never seen the time when there was enough *fine fancy* white liquid honey? Don't you know there are some bee keepers scattered all through the country, putting honey on the market that is just as far from the real thing as soup made from a rooster's shadow is from the *real* thing? Talk about educating the people! You might as well try to educate a calf to climb a telegraph-pole tail foremost as to keep on in the same old way with liquid honey. There are many wrong ways and only one right way to do almost any thing. If I ever agree with co operative associations or individuals they must go at this thing in earnest and look after *quality* in liquid honey. They must say to every man who extracts any thing and every thing from the brood-nest during a rapid honey-flow in order to stop swarming and give bees room, "We will not help you sell such stuff; but we *will* do every thing in our power to prevent your selling it."

But here comes a chap who says, "My honey was partially capped and ripened before extracting." They must say, "No, sir," to him. "We are going at this thing right now, and we will have nothing to do with a liquid honey that is not just as good in quality as it can be."

This very way I am writing about has gradually educated the people in this section of the country, so I consider the disposing of 3000 or 4000 pounds a very small matter. I have seen the time when I was pretty well discouraged peddling around from house to house; but the time finally came when I had them educated so far as quality is concerned.

Now, I wanted to do some more educating, and that was that they must buy a 12 pound gallon can, and I dropped the small packages. Now I can sell a customer 12 pounds just as easily as I once did a small tumbler of honey; and here is a point worth looking after. Don't you know many have been educating the people that honey is a luxury by using bottles and tumblers, in this way many times making extracted as dear as the best comb honey? One of these packages would find its way in a family. It was soon licked up by the children; then it would be a long time before any more honey found its way in that house. You see, I want to find a market that will dispose of large quantities for my brother bee-keepers. What we want is to dispose of large quantities of honey in cities and villages where at present very little honey is consumed. I will now give my plan. I should certainly adopt it if I had a large surplus. I would get a small gasoline-stove, and learn how to make small biscuit. I would go to city No. 1, call upon a leading grocer, and ask him to let me start him in the honey trade. With his consent I would start my baking-oven. Then every customer would be invited to eat biscuit and honey. While they were eating, of course I would be talking. I would tell them we were going to have this very quality of honey here for sale in gallon packages; give them the price, and show them that this was the way to buy cheaply, and that they could afford to use it as liberally as any thing they use upon their table. I should certainly make some sales right on the spot. They would get suitable reading-matter from me, telling them all about liquid honey. I could tell them to let their neighbors know all about this good honey, and just where to find it, and give them to understand that they could always depend upon this fancy grade of honey sent direct from the bee-man to their grocer. I would label it "No. 1 Fancy Extracted Honey."

Possibly I would stay in this place two or three days, when I would be ready for the next place.

Now, when the bee-keepers organize or co-operate they can put a man on the road. Find out the bee-men who want help, and those who put up only No. 1 fancy honey,

then secure a market for his product. Commissions will not be much when sold in this way. Then after the first season, markets would be established for the following season.

Now, Mr. Editor, I have said much more than I expected to; but I want to add that I have, from time to time, sent for honey that cost me double what it was worth, simply to satisfy myself what quality of honey was being offered by some who have more honey than they can easily dispose of; and for years past I have never stepped into a grocery where liquid honey was in sight when I did not sample it. I am glad to say that I have found some No. 1, but sorry to say more than half was all the way from medium good to unripe stuff unfit to be called honey.

Is this way going to educate the masses to eat honey? I fear not; and can our ways be made better?

New London, Ohio.

[I wish our friends could see Dan White and hear him talk, for he writes just as he talks. He is one of those sturdy practical dollar-and-cent bee-keepers whom it is a pleasure to meet. He does not write very often; but when he does he gives us something that is like his honey—*first class*]

It is too true that much of the honey that goes on the market is not ripened as it ought to be. The poor quality of some of the pure honey, and the vileness of the glucosed imitations on the market, have done much to disgust people with extracted honey.

It is E. D. Townsend, of Michigan, who preaches and practices the same thing taught so forcibly and plainly by Mr. White; namely, that honey must all be sealed and left on the hives until it attains that richness and flavor that is possible only when the bees have had time to ripen it as nature has designed they should. The extra price paid more than pays for the bother.

Once in a while one of our correspondents writes an article that is so true and good that I feel like asking our readers to "paste it in their hats." This is one of them. Yes, I propose having it struck off in pamphlet form to be sent out with every extractor made by The A. I. Root Co.—Ed.]

#### THE SHALLOW HIVE.

An Interesting Discussion of this Question; Shallow Hives and Double Brood-chambers; a General Rejoinder to Critics.

BY W. K. MORRISON.

In spite of all that has been written referring to the shallow hive, there are still some in the dark as to what it really is. Mr. Gill, for example, thinks it is too small, when, as a matter of fact, he uses a smaller one, in his own apiary. Mr. Greiner evidently thinks I am advocating double



brood-chambers, which is very far from being the case.

Shallow hives are nothing new. The first I ever saw was about 35 years ago; but it was actually invented in the 18th century—roughly speaking, 150 years ago. It was hexagonal in shape, and six or seven inches deep. It was a close approximation to the modern Heddon, almost the only difference being the frames were immovable. Such hives are still made, but with the frames movable, so there is nothing new under the sun. I tried the Heddon hive, but soon decided that a single brood-chamber was less work for me. Besides, there was the objection of expense. A double brood chamber costs just double the cost of a single one, and it is the same with regard to supers. I believe with Rambler that the Heddon hive contains some excellent features, and is susceptible of considerable improvement; in fact, would stand unrivaled. The Bingham hive is a good one, and any one interested in this discussion can not do better than read and reread what Mr. Bingham says about his hive. I know what he says is true.

One of the first attempts to grapple with the shallow hive idea was made by no less a personage than A. I. Root. If Mr. Greiner has the back volumes of GLEANINGS he will find this curious hive illustrated on the front page of the issue for Sept., 1876. I have tried a similar hive of my own construction, and found it to work all right, and for some purposes it is simply perfect. Perhaps if I had a hive-factory at my command I could yet perfect this hive; but I haven't, so we will pass it by to consider more successful ones. Dr. Tinker's Nonpareil is also a shallow hive, and a very successful one for comb honey production. Then the Danzenbaker hive is an excellent example of the shallow hive—one to conjure by. Only recently I saw it in use away down near the equator, in Berbice, turning out the most beautiful sections from the nectar of the cocoanut-blossom. And there are other shallow hives—for example, the Ideal super makes a splendid shallow hive worked on the Heddon plan—in fact, none better for hot countries, in the hands of a professional. Several things have militated against the success of the shallow hive. First of all is the notion that bees winter better in a deep hive. In my experience there is not the slightest foundation for such a belief. It is "notion," and very little else. Another "notion" is the notion that starters must be used with a hive run for comb honey, whether the hive is shallow or deep. Putting starters in any shallow hive means pollen in the sections more or less. There is no necessity for "starters" in a shallow hive, hence any criticism based on the use of starters is worthless.

To get the full value out of a shallow hive one must observe certain points usually ignored by the advocates of deep hives. In the ordinary Langstroth hive with Hoffman frames certain losses occur that must be

avoided in a shallow hive. First, there is the loss caused by not having the combs securely attached to the bottom bar. This loss usually amounts to a tenth of the total capacity of the hive. By spacing  $1\frac{1}{4}$  inches from center to center of the frames we can accomplish another economy, say 20 per cent of the hive, getting ten frames in an eight-frame hive or 12 in a ten-frame hive. By this means we can cut down the height of a hive 30 per cent, and still have a hive large enough for all practical purposes. Some may say that a  $1\frac{1}{4}$ -inch spacing is impracticable, and that is so if Hoffman frames are used, for the Hoffman frame is not by any means accurate. It is accurate when first made; but later on, when the edges have accumulated an amount of propolis, they are very far from being accurate, and that is the reason why a wider spacing is necessary with all ordinary frames. The Heddon and Danzenbaker frames can readily be spaced  $1\frac{1}{4}$  inches apart, with considerable advantage.

The next step is where I differ radically with Mr. Danzenbaker, and that is to have all chambers, brood, extracting, and section comb, one size. This is one feature about the Heddon worthy of emulation. All the parts of that hive are alike. There is considerable economy in having all bodies alike in dimensions, and it simplifies the work of a large apiary. Another great gain can be made in having only two stories instead of three or four. The Heddon hive has four chambers when two would do equally well. In designing the Danzenbaker hive it would have been easy to have made both the honey and the brood chamber of the same dimensions, simply by making the super a little deeper and the brood-chamber a little shallower. I think a little attention to these details would give us a truly scientific hive, resulting in a complete mastery over the bees, and yet allowing us an extremely simple hive at little expense.

I do not favor home-made hives, for it is an almost invariable rule they are not accurate enough for high-class bee-keeping, and we need even greater accuracy than we have at present. Similiar economies can be effected in section supers, but that is another story. Simplicity is a grand thing in bee-hives, and we may always strive for it. I remember the time when hives were much more complicated than now, and greater simplicity is still possible in my opinion. The super is a strikingly simple arrangement which can be utilized to an even greater degree than at present. Nor do all bee-keepers realize the wonderful possibilities latent in good Weed foundation. By cutting down the drone-laying capacity of our queens, and holding back the swarming instinct, we can do much to improve the present breed of bees. Accurate hives, combs, etc., all make for the bee-keepers' millennium, and this is the reason why I try to discourage the use of home-made hives, starters, etc. Artificial fertil-

ization would be another great step in advance, and I hope its day is near.

We are still very far, in my opinion, from reaching the perfect stage of bee-keeping; and such things as the use of starters, brush swarming, and inaccurate home-made hives, are steps backward rather than forward, in my opinion. I do not favor the soap-box hive; on the contrary, I like my hives to be as accurately gauged as the slit of a spectroscope or the tube of a compound microscope.

[I wish to make one correction; and that is, that the Heddon hive has a brood-chamber of one depth and a comb-honey super of another depth. The super as originally put out by Mr. Heddon was of an entirely different construction—shorter on the inside dimensions, and made of thinner stock. If the tall section had been in vogue at the time Mr. Heddon put out his hive, in 1885, it is possible he would have made the brood-chamber and section super of just the same depth. Mr. Danzenbaker originally did have his hive this way; but the more he experimented, the more he became convinced that a brood-nest just deep enough to take in 4×5 sections was a little too shallow. He therefore settled on something which is a compromise between Langstroth depth and the five-inch super section depth.—ED.]

#### A HIVE ON SCALES.

##### A Big Swarm; the "Witchery of Kodakery."

BY F. W. HALL.

The General Manager's report makes me say I began the season the first of May with 90 colonies. I afterward took in 7 colonies besides to work on shares for a neighbor, where I established an "outer yard." In reality I had but 85 colonies at the beginning of the honey-flow, which opened up almost within a fortnight, May 22 or 23. Between the 1st and 22d of May was bad weather to keep bees from dwindling. From that on they did good work despite almost daily downpours of rain; but between showers the bees rolled in the honey. There were three swarms yet the 27th or 28th of June that were scarcely bigger than a pint cup, which, had I not known that it was not for want of a good queen that they were that way, I would not have tried to get them through. They were united to swarmed colonies, old combs of brood, and gave excellent account of themselves; and, by the way, they were all daughters of the old queen I got from you three years ago last July. I have some 50 or more daughters of hers, and they have shown more or less of the vim of their mother, which was the queen that gave me 290 sections of honey in 1901 while my average was but 88 lbs., and no more pampering than the others got. In 1902 she did good work; but I lost my record-book—that is, some one borrowed (?) it (when I was not looking), and I can't

give you the record. In 1903 she was not kept on the scales, but did fine work until she swarmed out July 20. She was caged, and the swarm allowed to return to the old hive, and she was put on to other brood, and in some eight or ten days afterward



she came out with another swarm, hiving her with only a part of the bees on other brood, but lived only long enough to be superseded by one of her own daughters.

By pruning the combs of cells I have been able to get a good many daughters each season from her, and, as stated before, all have given good account of themselves. Talk about that o'd queen of yours not being worth \$200! Why, I believe this one I have (which, by the way, was one of her daughters) has been worth that much to me already. I kept this old queen on scales for two summers, weighing her three times a day during 1901, and once a day (at evening) during 1902. The 1901 record is in the *American Bee Journal*, page 579, 1902. It was borrowed(?), as stated above, hence I can not reproduce it. The year 1903 is as follows:

May 23, rain, sunshine; rain, sunshine; weight 58 lbs.

May 24, rain, sunshine; rain, sunshine; weight 62 lbs.; gain 4.

May 25, cloudy; added 10-lb. super; fair; weight 75¾ lbs., gain 3¾.

May 26, rain; cool; weight 75¾.

May 27, cool and windy; cloudy; weight 75¾ lbs., loss ½.

May 28, cool; weight 75 lbs., loss ¼.

May 29, cool, windy; cloudy; weight 73½ lbs., loss ½.

May 30, rain; weight 73 lbs., loss ½.

May 31, rain; weight 72 lbs., loss 1.

June 1, rain; cool; weight 71 lbs., loss 1.

June 2, cool; weight 71 lbs.

June 3, hazy; warm; weight 70 lbs., loss 1.

June 4, fair; weight 70 lbs., loss 0—0.



June 5, fine; very fine; weight 69½ lbs., loss ½.  
 June 6, very fine, added 10-lb. super; weight 80½ lbs., gain 1.  
 June 7, warm; fine; weight 79½ lbs., loss 1.  
 June 8, cool rain; rain; weight 79½ lbs.  
 June 9, rain; rain; weight 79½ lbs.  
 June 10, clear; cool; weight 79½ lbs., loss ¼.  
 June 11, cold rain; clear; weight 79 lbs., loss ¼.  
 June 12, frost, cool; warmer; weight 79½ lbs., gain ¼.  
 June 13, clear; warmer; weight 79½ lbs.  
 June 14, warm; weight 80¾ lbs., gain 1¼.  
 June 15, warm; warmer; weight 83 lbs., gain 2¼.  
 June 16, warm and dry; weight 85 lbs., gain 2.  
 June 17, warm and dry; weight 88 lbs., gain 3.  
 June 18, clear, and heavy rain at night; weight 91¾ lbs., gain 3¼.  
 June 19, foggy; warm; weight 95 lbs., gain 3¼.  
 June 20, fair; hazy; weight 97 lbs., gain 2.  
 June 21, rain all day; weight 96 lbs., loss 1.  
 June 22, fine bee day; weight 100½ lbs., gain 4½.  
 June 23, fine bee day; weight 107¼ lbs., gain 6¾.  
 June 24, 2 swarms; added 9-lb. super; weight 115 lbs., loss 1¼.  
 June 25, cloudy; clear; weight 120 lbs., gain 5.  
 June 26, very warm and clear; weight 130 lbs., gain 10.  
 June 27, warm; clear; weight 133 lbs., gain 3.



June 28, warm and no wind; weight 141 lbs., gain 8.  
 June 29, warm; heavy rain; weight 145 lbs., gain 4.  
 June 30, very warm; three swarms; tem-

perature eighty-seven degrees; weight 147½ lbs., gain 2½.

July 1, warm; clear; temperature eighty-five degrees; weight 150 lbs., gain 2½.

July 2, high wind from south; temperature eighty-two degrees; weight 149 lbs., loss 1.



July 3, cool wind from northwest; temperature sixty-five degrees; weight 148½ lbs., loss ½.

July 4, cloudy; shower; temperature sixty degrees; weight 149 lbs., gain ½.

July 5, warmer and clear; five swarms; warm; weight 152½ lbs., gain 3½.

July 6, high wind from south; two swarms; weight 152½ lbs.

July 7, windy but warmer; three swarms; temperature eight-four degrees; weight 157 lbs., gain 3½.

July 8, warm and still; two swarms; temperature seventy-five degrees; weight 160 lbs., gain 3.

July 9, warm; shower; four swarms; weight 165 lbs., gain 5.

July 10, cloudy, shower; two swarms; clear; temperature seventy-five degrees; weight 167¼ lbs., gain 2¼.

July 11, hot, shower; shower; cloudy; temperature eighty degrees; weight 172 lbs., gain 3¾.

July 12, shower; three swarms; temperature seventy-five degrees; weight 172 lbs.

July 13, clear and warm; four swarms; temperature sixty-five degrees; weight 174 lbs., gain 2½.

July 14, a 10-lb. swarm issued from scales colony, and hived on empty combs, and two supers; cool, win y; two swarms; warm; weight 88 lbs.

July 15, cloudy; fair; cooler; weight 91½ lbs., gain 3½.

July 16, ideal bee day; temperature ninety degrees; weight 98½ lbs., gain 7.

July 17, rain and cooler; weight 98½ lbs.

July 18, clear and hot; three swarms; hot;

temperature ninety degrees; weight 104 lbs., gain  $5\frac{1}{2}$ .

July 19, clear and hot; seven swarms; no wind; weight 112 lbs., gain 8.

July 20; windy but fair; four swarms; weight 113 lbs., gain 1.



July 21, warm and still; five swarms; temperature eighty degrees; weight 120 lbs., gain 7.

July 22, cloudy, cool; two swarms; warmer; weight 121 lbs., gain 1.

July 23, clear sky; three swarms; warm; weight 129 lbs., gain 8.

July 24, clear, very close; three swarms; warm; weight 134 lbs., gain 5.

July 25, hazy, hot; two swarms; temperature ninety-five degrees; weight 139 lbs., gain 5.

July 26, cool; rain at night; warmer; weight 140 lbs., gain 1.

July 27, cool; warmer; weight  $142\frac{1}{2}$  lbs., gain  $2\frac{1}{2}$ .

July 28, cloudy; weight  $142\frac{1}{2}$ .

July 29, cool and clear; weight 143 lbs., gain  $\frac{1}{2}$ .

July 30, cool and windy; honey taken off; weight 84 lbs.

July 31, cool and cloudy; weight 83 lbs., loss 1.

Aug. 1, cooler and cloudy; rain all night; weight 83 lbs.

Aug. 2, fine bee day; weight 87 lbs., gain 4.

Aug. 3, fine bee day; weight 90 lbs., gain 3.

Aug. 4, fine bee day; weight 91 lbs., gain 1.

Aug. 5, fine bee day; weight 92 lbs., gain 1.

Aug. 6, cooler but clear; weight  $93\frac{1}{2}$  lbs., gain  $1\frac{1}{2}$ .

Aug. 7, warmer day; added 25 lbs. cull sections; weight  $119\frac{1}{2}$  lbs., gain 1.

Aug. 8, cool and cloudy; rain; rain at night; weight 118 lbs., loss  $1\frac{1}{2}$ .

Aug. 9, cool; clear; weight 118 lbs.

Aug. 10, cool; cloudy; weight 119 lbs., gain 1.

Aug. 11, cool; warm; cool; weight  $120\frac{1}{2}$  lbs., gain  $1\frac{1}{2}$ .

Aug. 12, quite cold all day; weight 120 lbs., loss  $\frac{1}{2}$ .

Aug. 13, cool; warm; cool; weight 120 lbs.

Aug. 14, rain; hazy; one swarm; weight 120 lbs.

Aug. 15, cool; one swarm; warmer; weight 121 lbs., gain 1.

Aug. 16, fine bee day; weight 127 lbs., gain 6.

Aug. 17, fine bee day; weight 132 lbs., gain 5; one swarm.

Aug. 18, warm; hot; shower; weight  $134\frac{1}{2}$  lbs., gain  $2\frac{1}{2}$ .

Aug. 19, warm and fine; weight 139 lbs., gain  $4\frac{1}{2}$ .

Aug. 20, warm and fine; one swarm; weight 142 lbs., gain 3.

Aug. 21, warm and fine; weight 145 lbs., gain 3.

Aug. 22, warm and fine; weight 147 lbs., gain 2.

Aug. 23, cloudy; cool; warmer; weight 148 lbs., gain 1.

Aug. 24, warm day; one swarm; honey off; weight 95 lbs.

Aug. 25, warm day; one swarm; weight 95 lbs.

Aug. 26, warm day; weight 95 lbs.

Aug. 27, rain all day; rain all night.

Aug. 28, rain all day.

Aug. 29, still raining; cool.

Aug. 30, clear; fair; warmer; weight 95 lbs.

Aug. 31, clear; fair; warmer; weight 98 lbs., gain 3.



FINE OPENING FOR HONEY.

Sep. 1, very warm all day; weight 101 lbs., gain 3.

Sep. 2, very warm all day; weight 102 lbs., gain 1.



Sep. 3, warm; cool; cloudy; weight  $103\frac{1}{2}$  lbs., gain  $1\frac{1}{2}$ .

Sep. 4, rain all day; weight 103 lbs., loss  $\frac{1}{2}$ .

Sep. 5, rain; cold; weight  $102\frac{1}{2}$  lbs., loss  $\frac{1}{2}$ .

Sep. 6, rain; cold; weight 102 lbs.

Sep. 7, weight  $103\frac{1}{2}$  lbs., gain 1.

Sep. 8, weight 104 lbs., gain  $\frac{1}{2}$ .

Sep. 9, weight 103 lbs., loss 1.

Sep. 23, no weights were taken here; weight  $101\frac{1}{2}$ .

Sep. 24, heavy frosts; swarms all off; weight  $101\frac{1}{4}$ .

They were on the scales 109 days, out of which they made a gain in weight over the previous day of 63 days. Days in which they lost weight, 22. Days in which they held their own, 19. Days not weighed for several reasons, 5. On May 25, June 6 and 24, and Aug. 7, there were added 10, 10, 9, 25=54 lbs. in weight of supers and sections, to weights, and July 14 and 30, Aug. 24, Sept. 24, there were taken away 86, 59, 53, 39=237 lbs., a difference in favor of gain of 183 lbs. The loss column figures  $16\frac{1}{2}$  lbs., and the gain column is  $211\frac{3}{4}$ —a difference of  $195\frac{1}{4}$  lbs., a difference of  $12\frac{1}{4}$  lbs., which may have crept in through the exchange of hive-bodies and empty sections at the time of swarming, July 14.

There are other points in these weights and weather conditions worthy of pointing out, but my article is already quite long for a "sapling" like me, so I will leave it for the reader to study out.

My first attempt at kodakery was made on the trip to and from the Denver convention. I have spoiled lots of films since, and don't know it all yet; but herewith I send you a few "snaps," mostly of my bee-yard and bees.

I will begin at Nos. 1 and 2 by saying the swarm of bees is the same one in both cases. It weighs exactly  $12\frac{1}{2}$  lbs., and was the product of one queen. The hive from which they issued was a ten-frame one, with four supers on. It seemed full of bees, yet often the swarm went out. The little five-year-old girl in Fig. 1 is Luella, my youngest of three girls, which is all the family we have. The boy (five years) in Fig. 2 is Reymon Meyers, a neighbor's boy. I did not intend to appear in the picture; but the weight of the bees was too much for either to hold.

Figs. 3 and 4 show our middle girl, Annetta, of 11 years. The view where she is sitting on the hive was taken with the view of getting a picture of the queen, which was in plain view at the time of pressing the button; but the print does not show her, so far as I can see with a low-power magnifier. The colony back of her on the scales is the one from which the record of weights was taken in 1903, and was a daughter of the queen I got of you (in 1901, I think it was).

Fig 5 is my brother, Sam Hall, one of three brothers. who claims to have spoiled a good deal of hardtack forty years ago;

and if he had been as good at shooting the enemy as he was for stowing away edibles (honey especially), the war would not have lasted nearly as long as it did.

I am very busy, and have written this hastily. I hope to be over to meet you all at St. Louis this fall, but I am afraid I shall have to "dig up" the wherewith from some other source than the bee yard. However, I may be surprised again, as I was last year.

The winter's loss was very heavy, and only weaklings left—95 out of 111 colonies.

Hull, Iowa, May 9.

[In order to understand this matter better, the reader will observe that the weather-record is for the forenoon and afternoon, the periods being separated by a semicolon. Thus, the record for May 23 means that it was showery at intervals, both forenoon and afternoon that day, with sunshine between. Then follows the weight of the colony and hive, with daily gain and loss, as the case may be. It was found to be impracticable to put this record in columns, but we believe it will be perfectly intelligible with this explanation.

This is a very interesting table, and I could only wish that friend Hall had only amplified a little more on the weather conditions and how they affect the amount of honey gathered per day. In a general way I glean this: That from warm to hot weather is favorable for nectar secretion providing the soil is moist. But the conditions of soil are not mentioned in the table; but I know it has a bearing. We may have the temperature ideal; but unless the ground is right, there will be no nectar. I observe, further, that cool or cold weather checks or stops nectar secretion. I was surprised, though, to see that the records for the honey crop are no different after swarming. In some parts of the country, at least, swarming takes place when the flow is light, or stops altogether when the flow is heavy.

After a heavy rain we have been in the habit of assuming that there will be no nectar secretion for a few hours; but the scale weights here given do not bear out this assumption.

Another interesting feature is that the season is very prolonged in friend Hall's locality. In and about Medina, most of the honey would come in in two weeks as a rule; and this is the condition that prevails in most of the Northern States where clover is the main dependence.

Mr. and Mrs. Hall were in the bee keepers' car that went to Denver when the National convention was held there two years ago. I well remember they had a kodak to pick up scenes through the country. I am sorry for the man who does not enjoy a kodak, for he will miss a great deal of pleasure in after-life that he might have had by looking over the scenes of the years gone by; for they bring back many a pleasant memory. We have kodak pictures scattered all over the walls of our rooms upstairs, es-

pecially in the boy's room. He is shown at all ages, at his worst and at his best. Then there is another collection that shows my bee-keeping trips; and each picture recalls a little history of some event or place.—ED.]

### PECULIAR INSTINCTS OF BEES.

The Importance of Getting Them Started Right; a Very Interesting Article.

BY J. E. CRANE.

On page 913, Dec. 15, 1898, the editor says, in his "Symposium on Fences and Plain Sections," "Last year we sent out a few of our fences with spaces less than  $\frac{1}{8}$ " (the width of perforated zinc). When the bees could not go through, we learned early in the season that they were inclined to gnaw the space wider; and when *once started* to gnawing they would keep it up till the space would be widened to  $\frac{3}{8}$  or even  $\frac{1}{2}$  inch."

When I first read this paragraph it seemed a very proper way, not only for accounting for the gnawing of separators or fences, but also, if true (and there was no reason to doubt it), of accounting for some other things. "When *once started* to gnawing they would keep it up." Exactly! There is a good deal in getting *bees started* in either a good or a bad way. I was the more impressed with this when I looked over a large number of fences of my own, used during 1898, to see what I might learn. Instead of using all my fences with c'eats, I made a large number with small wooden pins, driven through the slats to engage the

edges of the sections. A few of these were made by boring a  $\frac{1}{16}$  hole through a piece of lumber before slicing it up into slats. As I used thin pegs or pins about  $\frac{3}{8}$  wide by  $\frac{1}{16}$  thick, it left a little opening on each side of the pin through the slat—see photograph.

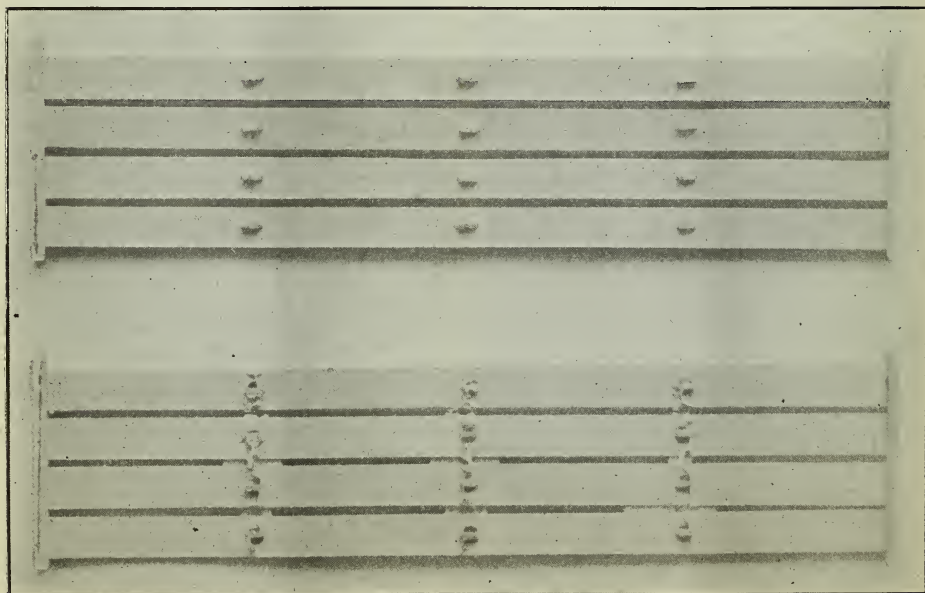
Now, instead of the bees gnawing these holes larger they proceeded to stop them up with virgin wax, evidently early in the season; and when once the bees *got started* they kept on, and not only filled up every hole each side of the pin projections, but between the edges of the slats, and also a good deal between the slats and edges of the sections. The photo shows how it was done if you look closely.

Very few others out of several hundred, so far as observed, were filled up in this way with wax. The small holes started them; and when *once started they kept on* a way beyond what reason or good judgment would dictate.

Sometimes a colony seems almost to be governed by reason; again, by instinct; and, again, by impulse or passion.

Let us look further at this instinct or impulse of bees that, when *once started* in any given line, keeps on. Those who handle bees know how apt a colony of bees is, if it once begins to sting, to keep on. If a colony has killed a young queen I find it quite difficult to introduce another; even when you give it brood with which to rear its own queen it will sometimes keep on in its queenlessness. If a colony gets started early in the season in surplus boxes it is more likely to surpass others that hesitate before they go into supers.

If I find one section in a super with pol-





len in it I am quite sure to find several. Alas! they *got started* to storing pollen in the wrong place, and kept on.

One colony gets started to gatheringropolis, while another may be gathering honey; and it does not stop when every crack and crevice is filled, but keeps right on smearing every joint and frame and section; and even the combs in brood-chamber and super come in for a share of this sticky substance.

When once a colony gets started or prepares to swarm it requires vigorous treatment to turn it from its purpose. I have taken away all the brood and honey—yes, and every brood-comb from a colony, and yet it would swarm.

This impulse is not always bad by any means. During the season of 1897, when clover was in full bloom, and honey very abundant, and most hives had combs begun in supers yet but little finished, the flow of honey was from some cause (probably from too much rain) suddenly cut off; but the bees kept on filling their supers with honey from their brood-chambers, for some time after they could gather much from the fields.

But there is another line along which, when bees once get started, they are apt to "keep it up," and that is the way they finish off their combs. On the same page from which I quoted at the beginning of this article, I read, "I picked out two samples of sections from Martin's honey; for I observed that, if one section in a case was ridged, all the sections in that case would show somewhat the same fault, thus indicating that some bees are more inclined to ridge than others." Just so; and so some colonies are more likely to finish their combs in other ways when once they get started; as, for instance, sealing their surplus combs next to the wood. If we find one comb in a super finished perfectly we are likely to find most of the combs in the same super sealed in the same way; or if we find the first comb we take out not sealed around the edges, we are not likely to find many that are.

On page 910, of the same issue, Mr. F. L. Thompson, in comparing the old style of sections with the plain sections, says: "So far we have had no experimenting lately published that was worthy of the name. Both kinds of sections to be compared should be in the same super."

However it may be in other parts of our broad country, I can not tell; but I feel very sure that, in this section, such a method of experimenting would be very far from satisfactory, from the fact that, as bees begin to finish, they are likely to continue without much regard to our notions as to how it should be done, or whether the sections are plain or otherwise. Suppose we have two or more hives with supers that have half of their sections on one side plain between fences, while on the other side are old-style sections with solid separators, narrow enough so bees can pass both above and below them into adjoining sections. The bees

will most likely finish all with but little difference. Should the bees begin to finish on the side with old sections it is not probable that the plain sections will be finished much better. Or if the bees commence to finish on the side with plain sections first, they will be likely to finish those on the other side in the same way.

As was said of Mr. Martin's honey, so of these: As you find one you are likely to find the rest in the same clamp. But if we fill one or two hundred clamps with one kind of box or separator, and as many more with another kind, and place them on our hives just as it happens, we shall be much more likely to secure results that will be more satisfactory. It is not very difficult to average the different lots after they are ready for market.

Again, if we feed bees with cappings or other refuse honey, and they get "started" on it while yet there is honey to be had in the fields, they are ready to leave field work for this artificial feed, to their own disadvantage.

Once more, if a colony gets "once started" to robbing we all know the result. They are apt to leave honest industry and follow the bee-keeper from hive to hive; and every time a comb is exposed they pounce upon it, making more trouble than they are worth; and when "once started" they are almost sure to "keep it up."

From the foregoing will be readily seen the importance of getting bees started in best way, and keeping them from getting started wrong.

Middlebury, Vt.

[I doubt not that your article will recall to the minds of many of our practical bee-keepers many cases similar to those to which you allude. In the production of comb honey I soon found that it was *very* important to get the bees started early in the supers; that, when once started, the colony would go on working without clustering out, and pile in the honey as long as there is any to be obtained. A colony that fusses around, has its brood-nest packed full of honey, and will not go into the supers, will, unless made to go to work somehow, loaf a good part of the season.

Again, if a colony is once stirred up to sting, it is liable to be for ever after nervous—at least so far as I have noticed. We had once one colony that was near the driveway, very peaceable; but after it was bumped by a wagon-wheel it was so obstreperous that we had to move it away from the roadway. In a similar way we have a path right down in the center of our bee-yard. If a colony on this path once gets used to the walking back and forth, it will give but little trouble the entire season.

In this way we might multiply hundreds of instances. This same rule that applies to *Apis mellifica* applies with even more force to the human race. The young man who starts out right, keeping good company, and is never too big to go to church and

Sunday-school, has a very much better chance in life than the other one who thinks it is "smart" to be "out with the boys nights" and "have a good time." He is pretty apt to keep on being out all his life when he gets started to doing so. They say it does 'em no harm, and if it does they can quit. Few there are who *begin* sowing "wild oats" quit, sober down, and make men that are an honor to community.—Ed.]



FENCES OR SEPARATORS WITH TRANSVERSE OPENINGS.

*Mr. J. T. Calvert:*—In April 15th GLEANINGS I note that you advertise the Hyde-Scholl separator or *fence* as you are pleased to call it. In the summer of 1898 Mr. Scholl and myself experimented with a great many forms of separators, with the result that we brought out the separator with both longitudinal and transverse slots as has been illustrated. For the old-style  $4\frac{1}{4}$  section the problem was easy, and satisfactorily accomplished with our No. 1 separator, and open four-side sections. For the Ideal section we added wood spacers, which proved unsatisfactory, and we then tried and successfully used tin spacers. For various reasons I recognized that the  $4\times 5$  section was in the lead, and I last year went about to adapt our separator to the  $4\times 5$  section. I was working on the problem when Mr. Calvert paid me his visit. I showed him my plans, and he suggested other slight changes, the principal one being the use of tin on the upright slots. As the separator stands, it is well adapted to the Danz. super arrangement, and it can be easily adapted to other arrangements of the  $4\times 5$ -section super. When we have further improved and done away with the wood cleats at the ends, and arranged for passageway for end sections, as well as middle, we shall have it right. We are figuring on a modification of the Danz super that will accommodate this idea. As the separator stands, it is by far the best separator or fence on the market.

The superiority of the separator rests mainly in the upright slots and the manner of spacing. By this arrangement we do away with the wood-cleat spacers, which invariably cause the sections to be rounded off on the edges as well as promoting pop-holes. With this separator honey is finished off clear up to the wood, and there are few if any detestable pop holes. It is needless to say that the arrangement also promotes freer communication and better super work generally.

Mr. Calvert is wrong in calling this a fence, for it is not a fence in any particular. It is a separator, pure and simple, and as such it should be called a separator, regardless of whose name you attach to it.

From reports it would seem that Mr. Scholl and myself are not the original inventors of this principle applied in the separators; however, certain it is that we were not aware of such previous invention. Such, if any, had not been heralded before the bee-keeping world. We are the first to make known to the bee-keeping world generally the principles applied in our separator, and as such we demand full and fair credit for the same.

It is a foregone conclusion that our principles will be applied to all separators in the future, and as such we demand that such separators be known as the Hyde-Scholl.

This separator, and the honey produced with the same, will be on exhibition at St. Louis, and we hope that as many bee-keepers as possible will examine and criticise the same. We believe it is a good thing, and are anxious for the bee-keepers to have the invention for what it is worth.

Floresville, Tex. HOMER H. HYDE.

[It is no doubt true that you were not aware of any previous invention antedating the Hyde-Scholl separator; but when you say that you were the "first to make known to the bee-keeping world generally the principles applied in our separator" you are not quite correct. In the *Bee-keepers' Review* for December, 1897, a separator is shown and described by L. A. Aspinwall, of Jackson, Michigan, which embodies all the principles in your separator save one—that of using horizontal slots. This article of Mr. Aspinwall's was the result of mature thought that had been worked out some time before—how many years or months I do not know; but I do know that he had used the plain section some eight or nine years before any general mention of them was made in the bee papers; and the probabilities are that he had used his separator for nearly that length of time. The Aspinwall device has the transverse perpendicular openings opposite the uprights of the sections on each side, cleats, or projections on the separator, and the openings at the ends of the super exactly the same as in the Hyde-Scholl fence. In this article he goes on to give his reasons for such openings very fully. Your article describing the Hyde-Scholl fence did not appear until just about a year afterward, and that was in the December 15th GLEANINGS, 1898. Along about the same time, Mr. J. E. Crane, of Middlebury, Vt., was working on the same problem, and on December 24, 1898, filed an application for a patent covering the raised projections on different planes in a separator or fence. The patent was finally allowed, May 2, 1899. It is very broad, and covers the Hyde-Scholl fence, using metal projections, completely. We have, therefore, made arrangements to



pay Mr. Crane royalty for all fences made. We have adopted the name Hyde-Scholl, because such construction of fence was known better to our trade than the Aspinwall; but in reality the separator is more an Aspinwall than a Hyde-Scholl; in fact, it might very properly be called after Mr. Aspinwall.

Regarding the name "fence" and "separator," there are trade reasons why all the division appliances between plain sections should be called fences, and those between beeway sections should be called separators. In our opinion, the Hyde-Scholl fence is just as much a fence, if not more a fence, than a separator. It is made up of a series of slats, and resembles very much fences that are used to inclose lots and farm lands. It would be very confusing to the trade to speak of this appliance as a separator, as the bee-keeping world has come to associate a separator with something that is used between the old-style sections; and we could not consent in our catalog matter to change the name, as it would lead to no end of confusion among our dealers and customers.

The question of priority in inventions is a pretty complicated one, and it very often happens that the real inventor of an idea, or the one who contributes the most to a perfected appliance, does not have his name attached to it, simply because trade reasons require the use of the old name to avoid confusion. If we give full credit on this new separator we should attach also the names of Mr. J. E. Crane and Mr. L. A. Aspinwall; thus, Aspinwall-Crane-Hyde-Scholl fence. Such a name would be a long-tailed abomination, to say nothing about the trouble in referring to it and billing it on invoices. But you and Mr. Scholl deserve credit for hanging to this idea and continuing to use it, thus bringing it before the bee-keeping world when it might otherwise have been dropped and forgotten. Your persistent advocacy of the principles entitles you properly to the use of the name Hyde-Scholl, as applied to this particular form of separator, for you were the *introducers*, if not the original inventors, of the main principles of it.—Ed.]

#### STAYING UP FOUNDATION WITH WOOD SPLINTS.

*Dr. Miller:*—1. Excuse me if I ask you a few questions. Would you please explain to me how you use your splints in fastening foundation? Perhaps you might tell me to get your Forty Years Among the Bees. Well, I surely will later on.

2. I also have some shallow frames with a saw-kerf, but I really don't know how to fasten the foundation in them.

3. Where did you purchase your splints? Metz, Wis. FRED STROHSCHNEIN.

[Dr. Miller replies:]

1. I quote from Forty Years Among the Bees, page 87: The foundation is cut so as to make a close fit in length, and the width

is about half an inch more than the inside depth of the frame. The frame is all complete except that one of the two pieces of the bottom-bar is not yet nailed on. The frame is laid on a board of the usual kind, which fits inside the frame, and has stops on the edges so that, when foundation is laid on the board, it will lie centrally in the frame. The half of the bottom-board that is nailed on lies on the under side. The foundation is put in place, and one edge is crowded into the saw kerf in the top-bar. Then the lacking half of the bottom-bar is put in place, and a light nail at the middle is driven down through both parts. Then the frame is raised, and the ends of the two halves of the bottom-bar are squeezed together so as to pinch the foundation, and nailed there. Then the usual wedge is wedged into the fine saw-kerf in the top-bar.

Now we are ready for the important part. Little sticks or splints, about  $\frac{1}{8}$  inch square, and about  $\frac{1}{4}$  inch shorter than the inside depth of the frame, are thrown into a square shallow tin pan that contains hot beeswax. They will froth up because of the moisture frying out of them. When the frothing ceases, and the splints are saturated with wax, then they are ready for use. The frame of foundation is laid on the board as before. With a pair of pliers a splint is lifted out of the wax (kept just hot enough over a gasoline-stove), and placed upon the foundation so that the splint shall be perpendicular when the frame is hung in the hive. As fast as a splint is laid in place, an assistant immediately presses it down into the foundation with the wetted edge of a board. About  $1\frac{1}{2}$  inches from each end-bar is placed a splint, and between these two splints three others at equal distances . . . A little experience will enable one to judge, when putting in the splints, how hot to keep the wax. If too hot there will be too light a coating of wax.

2. If there are two saw-kerfs side by side, crowd the foundation into the larger kerf, and then crowd the wedge (that came with the frame-stuff, into the narrower kerf. If there is only one kerf, crowd in the foundation, and then drop a few drops of melted wax along the foundation and top-bar, so as to hold it there till the bees fasten it securely. Instead of dropping the melted wax, you can crowd a waxed string into the kerf beside the foundation.

3. From the A. I. Root Co.

#### WINTERING WELL IN DANZENBAKER HIVES; SHUTTING BEES UP AT SPRAYING TIME.

My bees went through the winter well; that is, those in the ten-frame hives. I lost a few hives of eight-frames, but did not lose a single ten-frame colony. This has converted me to the ten-frame Danzenbaker hive.

What shall I do when it is time to spray apple-trees? Would it be advisable to close the entrance of the hives for a day or so un-

til the white arsenic has dried on the blossoms? This is the center of the Wellhouse apple district, and everybody sprays his trees.

ARTHUR E. MOORHEAD.

Leavenworth, Kan., April 23.

[We have had uniformly favorable reports of good wintering in Danzenbaker hives outdoors. We attribute this to the closed-end frames, which are warmer.

If you have no law in your vicinity against spraying trees while in bloom, it may be advisable, possibly, to close up the entrances while the trees are being sprayed; but it will not be advisable to keep them closed more than two days, probably. Possibly you can make arrangements with your neighbors to spray all at one time, on one or two days, if you can not induce them to spray before and after blooming. I send you literature which will give you some solid facts against spraying while in bloom; and if your neighbors, the fruit-growers, are reasonable and fair men they would be willing to give these statements proper consideration. We shall be glad to furnish any of our readers facts about spraying.—ED.]

#### VIRGINS HATCHING IN WIRE CAGES; HOW TO KEEP THEM FROM STARVING.

Will you please tell me how you manage to have your virgins hatch in the wire cages used by you, and have the bees feed them until you use them, and not kill them? I have tried several lots this year, and invariably the bees have let the virgins die after they hatched. I have tried both queenless colonies and upper stories above the excluder. Please advise me. H. H. HYDE.

Floresville, Tex.

[This was referred to our apiarist, who is at present attending college. He replies:]

Perhaps if I thoroughly understood the conditions under which Mr. Hyde is working, I should be sooner able to ascertain the cause of his failure along the line he indicates. The statement of a few fundamental details, however, may reveal the cause of his trouble, and be helpful to others as well.

Whether the colonies used for incubating the cells are queen-right or queenless, they must be strong, and the cells should be placed in a populous part of these. As explained in "Modern Queen-rearing," where virgins are to be held over for a longer period, queenless colonies give better results. However, I have been completely successful by leaving them in the middle of any normal colony.

On page 27 of "Modern Queen-rearing" an important point is mentioned; viz., that of keeping the cages supplied with *fresh* candy. There are times when, for some reason or other, even queenless bees do not feed the caged virgins sufficiently. Well, in these circumstances a large percentage die. Now, when ripe cells are to be caged, the bee keeper should overhaul the nursery-cages and see that they are supplied with

good *soft* candy. (The peculiar construction of the Titoff cage renders this very easy.) Old hard candy is little better than none at all. I should not be surprised if Mr. Hyde's trouble is in this direction.

Again, queen-cells should be removed soon after the virgins hatch. They have an unpleasant habit of crawling again into them and endeavoring to eat their way out at the base of the cell—a rather difficult job, by the way, when the cell is formed in a hard wood block. Often I have examined cells which I thought were defective, only to find the wrong end of a virgin queen turned in the direction of the open apex, and the top end nearly tunneled out. Let me say here that this is a comparatively rare occurrence in the Titoff cage. Still it may happen even in this, and the best way is to remove the cells.

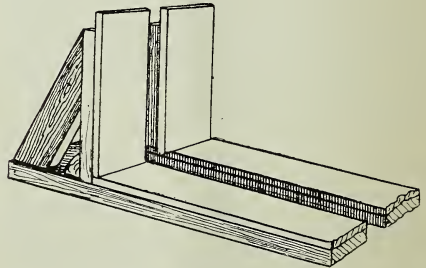
Another point that might be mentioned, though indeed one that ought to be so obvious as hardly to need mentioning, is that the tin slide must cover the candy-hole when the cages are used as nurseries. Neglect this and is it not plain that the bees will soon eat away the candy, and be in possession of them? And then the virgins or cells—where will they be?

GEO. W. PHILLIPS.

Denison University, O.

#### A HANDY DEVICE FOR NAILING UP HIVES, SUPERS, ETC.

Having some 70 chaff hives and as many single-wall hive-bodies, as well as 75 comb-honey supers to nail up this winter, and as they must all be square, I did not like the idea of using a common square to gauge all this work. I made a combined square and work-table (see cut) which I believe has saved me several days' time this winter already. I find it almost impossible to nail the hand-holds firmly on to the chaff hives



after the hives are nailed up, on account of the lumber being so thin, so I nail the cleats on the end boards, first placing a piece of thin lumber about 2 by 5 or 6 inches on the under side. These strips can be made of crating material. I then drive three 1½-inch and two 1¼-inch nails through the hand hole into this strip of wood. The object of this strip of wood is to stiffen the hold. The square referred to above is made of a two-inch plank with an inch



board nailed on each side, leaving a crack two or three inches wide in the middle to accommodate these hand-holes. If you have no section-press you will find it convenient to use something of this kind in folding them.

F. J. STRITTMATTER.

Bradley Junction, Pa.

#### SHALL HOUSE-APIARIES BE REGARDED AS OBSOLETE?

I notice with much interest what Mr. Fred H. Loucks says of the house-apiary, in last GLEANINGS, April 15. Recent experiences with me have been such as to place the house-apiary in much favor. I think it would be a misfortune if any thing that favors a modern house-apiary should be dropped from a revised edition of the A B C. I believe that the day of the more general use of house-apiaries is fast approaching, especially in cold climates. I shall be glad if Mr. Loucks' advice is heeded.

L. C. ROOT.

Stamford, Conn., April 28.

[I possibly gave a wrong impression regarding matter that appears or does not appear in our new A B C of Bee Culture on the general subject of house-apiaries. At Mr. Salisbury's request we omitted all reference to his particular house, but left in the other matter, all of which might be considered quite favorable to the house-apiary. We have since received reports from others who have been using the Salisbury building, and who are much pleased with it. I am not sure but that a part of this matter relating to the Salisbury house apiary will have to be reinstated in some future edition of the A B C. In the meantime I should be glad to hear from others of our readers. I should, perhaps, explain that Mr. Root is also the author of a bee-book, a very excellent one, and one of the veterans in our bee-ranks. His opinion on any question should have some weight.—Ed.]

#### COPULATION OR FERTILIZATION MORE THAN ONCE—WHICH?

The article from the pen of Prof. Frank Benton on page 385, on the mating of a queen more than once, is certainly very interesting; but in the cases mentioned it seems hardly to answer the question, "Does a queen mate more than once?" What is usually understood by this question is, does a queen that has mated and been laying until the eggs become unfertile, mate again?

The cases cited rather go to show copulation without fertilization till the last act is performed; so, also, in the case noted by Mr. Baier, on the following page. There seems to have been serious interruption of the natural functions, so that it can scarcely be said that there was more than one mating. Is it not possible that a queen might meet a drone incapable of producing fertilization? Shall the male bee be made an exception to the rule as we find it among others of the animal kingdom? This is cer-

tainly an interesting subject for thought, and will be likely to attract the attention of those who are making a careful study of the occupants of the hive.

W. M. WHITNEY.

Lake Geneva, Wis., April 19.

[The point you raise is one worthy of consideration. Perhaps Prof. Benton can enlighten us further.—Ed.]

#### A NORMAL QUEEN THAT LAID EGGS ON THE SIDE OF THE CELL.

On page 377, in regard to queens not being able to lay eggs in the bottom of the cell, I had a very large queen that laid eggs on the side of the cells, and I sliced off a part of the cells so that they were only one-third the original depth, and the queen laid the eggs in the bottom of the cells, and the eggs were matured and capped over all right. I think there are many of the most valuable queens that are discarded on account of the cells being too small for the nicest and largest queens to use on account of the very small cells.

As long as the queen-breeders aim to get the largest queens possible, there has not been any desire or much thought given to making the cells larger to accommodate their size. If you ever have a queen that lays eggs on the side of the cells, give her some larger comb and she will lay them in the bottom of the cells all right.

Eagle Grove, Ia.

C. K. CARTER.

[The case described is not common. The great majority of queens that lay eggs on the sides of the cells are not good for any thing. If their eggs hatch at all they will develop into drones. Our large experience in queen-rearing has shown this to be the rule.—Ed.]

#### FOUNDATION SMELLING OF KEROSENE; CAN IT BE USED?

Having had the misfortune to have some kerosene get on some of my foundation, and not knowing what to do with it, I thought I would write you about it. It seems to evaporate, but the foundation has a flowery appearance. Do you think it can be used, or must it first be purified with acid?

Bees are in good condition; temperature rather low, ranging from 45 below to 20 above since Oct. 15; no flight since.

Dorchester, Wis., Feb. 19. WM. UECK.

[I do not think the kerosene will hurt your foundation. Give it to the bees, any way, this summer. If they refuse to touch this, and take other foundation, let us hear from you further.—Ed.]

#### DO QUEEN-EXCLUDING HONEY-BOARDS RETARD WORK IN COMB-HONEY SUPERS?

I have been a reader of GLEANINGS for 18 years, off and on, and I should like to ask one question through it; and that is this: Does it retard the bees from working in the

sections by using the queen-excluding honey-board between the sections and the brood-nest when working for comb honey? Last year I had some trouble by the queen getting into the sections. In other words, can you get more honey without using one?

W. H. DICKINSON.

Middleton, Conn., Jan. 28.

[There is a difference of opinion on this question. The great majority do not consider that excluders are necessary when running for comb honey if full brood-nest be allowed. If contracted they are almost a necessity. I should like to hear from our subscribers on the point raised by our correspondent. I may, say however, that, in the production of extracted honey, excluders are generally considered quite essential since brood or extracting combs are more tempting to the queen than section boxes with foundation.—ED.]

#### A PECULIAR CASE OF SOURED HONEY.

Quite a lot of bee-keepers have sold some honey to Pomona merchants which either was not ripe (something very unusual in California) or else there is some strange atmospheric condition prevalent which tends to start fermentation in honey. Last season's honey, as well as honey kept over from 1902 crop, was already granulated solid, but became liquid again, and then started fermentation (according to the statement of parties interested). I suggested that perhaps there was some soldering-acid left in the tins used, which started the mischief. Well, the trouble is that quite a number of merchants complain that honey on their hands does not keep in good condition this year (extracted only, as comb honey has given no trouble). Now, we want to know what can be done to this honey to make it salable. Will cooking take out the sourness? Can it be fed to bees without bad results? What do you do in such a case?

M. R. KUEHNE.

Pomona, Cal., Mar. 14.

[Heating soured honey helps it somewhat. After it has been cooked, if the bees will take it in warm weather I do not think it would do any harm. If they will not do any thing with it, the only thing to be done is to convert it into honey vinegar. As to the cause of this sourness, whether the honey was taken off green, whether soldering-acid got into it, or whether the source from which it was gathered had some effect on it, I leave our California friends, who may be in possession of information, to answer.—ED.]

#### BRASS TAGS FOR HIVE-NUMBERING.

I notice that there is a demand for a better system of keeping a record of hives in the bee yard. When I kept my bees in Ohio I used a system which I believe will interest you. I secured 100 brass tags about the size of a half-dollar, numbered

from one to a hundred. A fourth-inch hole was punched in each tag near the edge, and they were then hung on a brad on the sides of the hives, while a corresponding number in my book showed the record of each queen. They are not expensive, and the man who makes your stencils can furnish them. I like the system better than any that I have ever seen; for instance, if five number eight should cast a swarm, I have the swarm in a new hive, lift off the check and hang it on the new hive, and my book-record still holds good. I simply place a new check on old number eight, and make another record in my book.

WALTER S. POWDER.

Indianapolis, Ind., Mar. 7.

[The only objection to these brass tags is that the numbers would be inconspicuous. They ought to be plain enough to be seen quite a distance away.—ED.]

#### INSTINCT; COOKED NUTS VS. MEATS.

*Friend Root:*—In regard to instinct or prudence impelling bees to remain in their hives, page 1010, my opinion is that the field bees were practically all destroyed; and by the time the younger generation were of suitable age to go to the field the hawks were gone.

Page 1012, Dec. 1, in regard to a circle of bees around a queen preventing her from laying, it occurs to me that these bees were nothing more nor less than her retinue or nurse-bees, with the most friendly intent.

Page 1019, same issue, Mr. Lathrop's article on uncooked foods as compared with meats, I should like to ask if the oil contained in the English walnut, and freshly roasted peanuts, would not represent in a certain degree the oil contained in meat, especially if the meat contains any fat. This would certainly be true of the roasted peanuts, as the roasting changes them *materially* from nature. I know people (of the same denomination referred to in A. I. R.'s article, page 1015) who substitute peanuts for both meat and butter; in other words, they make a sort of butter out of them. I am not setting myself up over older or wiser heads; but these thoughts just occurred to me while reading the last issue.

Hillsboro, Wis.

ELIAS FOX.

[Peanut butter has come to be quite an article of commerce. At our house we use quite a little of it as a relish to spread on bread and butter. Just how far nuts can take the place of meat in a diet I am not prepared to say; but I have learned from experience that, when I am all "run down," there is nothing that does the work of building up like clear lean beef. It is the natural food of man, and, when properly cooked and *properly proportioned* with other foods, there is no article of diet that quite takes its place. I believe I have a right to speak from experience, as I have "been there"—not once but several times, and I have seen its effects on others.—ED.]



## DO CALIFORNIA LIZARDS KILL BEES?

Have you any knowledge of lizards being destructive to the strength of colonies? In my apiary, which is situated in the foothills of the San Fernando Valley, there are large numbers of the small variety, about six inches in length. In fact, I do not think I exaggerate when I say that at least one could be found about any of the hives. I have been told by several bee-men that they do not eat the bees—at any rate the live ones—and so accepted this as a fact until the other day. While eating my luncheon in the shack at the apiary I noticed, when I commenced, that there were several bees buzzing on the window; also that a lizard was scurrying about inside the shade. In the course of a short time I observed that there was but one bee left, and came to the conclusion that the various scurries I had heard had meant that each denoted the end of a bee, so I determined to pay particular attention to what became of this last one. After a short wait I heard another scramble, and the buzz of the last bee had ceased. Gently raising and looking under the shade I saw the lizard with the bee in its mouth. It was holding the head and body, up to the thorax, in its mouth, with the abdomen out, under side up, the bee vainly thrusting its sting in the air. While watching, it began a series of quick side rubs on the curtain until it eventually severed the abdomen, which fell to the floor, while it swallowed the portion held in its mouth. I am convinced that there were at least five bees on the window when I sat down, so there was ocular proof that, within a quarter of an hour, this lizard had made away with that number. I do not believe they will attack a bee at the entrance to the hive, having often noticed that they cross the alighting-board at a rapid rate; but I do believe that they make away with many that may crawl on the sides or top of a hive.

Some time ago I found one dead inside the hive on the bottom-board, with a number of stings in its body, which would show that, although of the cold-blooded order of reptiles, they are susceptible to the sting of the bee. I would add that this particular lizard had apparently no relish for the dead bees, as there were many on the ledge of the window, but evidently preferred, at the expense of the labor and hazard of the sting, to have his meat fresh. E. W. MOORE.

Soldiers' Home, Los Angeles Co., Cal.

[I have seen the lizards in California; but those that I saw seemed to be perfectly harmless, and my bee-keeping friends so regarded them. Some of them grew to be quite tame and would almost let one pet them on the head, for I thought them quite pretty. But it is possible these same creatures were not so innocent as they looked, and on the sly would gobble up bee after bee. I should like to hear from some of our California friends who may have any thing to offer on this subject.—Ed.]

## PHACELIA TANACETIFOLIA FOR HONEY AND FODDER.

Some questions have been asked about *Phacelia tanacetifolia*, whether this plant would be good for fodder. This plant is very good for fodder and honey in the Northern States where alfalfa can not be grown to advantage. Alfalfa has many advantages over phacelia. Alfalfa is perennial; can be cut from three to six times a year, and brings each time from one to one and one-half tons of hay per acre. Alfalfa, even if cut late, will still make fine hay.

Phacelia is an annual, and it can be cut only once or twice in the same year. The first time it should be cut for hay, just when commencing to bloom fully, giving the bees about one week's time to work for honey. If the season brings moisture in sufficient quantities, as is general in the Northern States, I believe it will bring a second cut, which may be used for honey and seed. I have not tried it here, especially for such a second crop, as we have not sufficient moisture in this country, but I have seen it produce new growth near ditches where I had cut off some for experiment, and this new growth produced again flowers and seed. Phacelia will make fine hay for all kinds of stock, if cut not too late, say when blooming about from one to two weeks.

If a country is suitable for alfalfa, this fodder will bring much larger returns than phacelia. OTTO LUHDORFF.

Visalia, Cal., April 9.

## A SUCCESSFUL USE OF FORMALIN.

Having read about formalin for disinfecting foul-broody combs, last January I fumigated about ten hive-bodies and combs, some containing honey, and to-day there are no signs of disease among the bees in the fumigated hives. I am fumigating all supers this season; but I find if the combs are not well aired the bees leave them and their brood to take care of themselves.

Ohaui, New Zealand. E. J. PINK.

## DIVIDING AT THE TIME OF TRANSFERRING.

I should like to ask a question or two. I have several swarms in box hives to transfer. Some of them are very strong. Can I, or would it be advisable when I transfer them, to divide them and make two swarms out of one? I should like to have a few more swarms. S. W. GRAY.

[If increase is desired, this can be done to advantage.—Ed.]

## A KINK IN WIRING.

I have followed using full sheets of light brood foundation in wired brood-frames for several years. I have tried different ways of wiring; but my best results have been obtained by using four horizontal wires drawn moderately tight (the top ones being drawn most), and putting the lower wire

not less than 1½ inches above the bottom-bar, with the others spaced to suit. Buckling is usually between the two lower wires; and raising the lower wire will obviate its buckling there by giving a weight of bees below the lower wire while drawing out the foundation. NEWTON DOTSON.

Summersville, W. Va., Jan. 14.

[All things considered, we prefer ourselves this plan.—ED.]

#### CYPRESS AS A HIVE MATERIAL.

I want to tell you that you are much mistaken when you think white pine the most suitable lumber for hives, page 436. We have cypress here in plenty, and I think it is pretty generally distributed everywhere, or at least as much so as white pine. Cypress is superior to pine, at least in our Southern States. I have some hives in use made 18 years ago, and which have been in use ever since, and are in good condition, and have never been painted except once. They have only a square or box joint. You can buy cypress, clear boards, here at the mill for \$20 to \$25 per 1000, rough. I make my hives and frames from it. It is soft, and doesn't split if the right size of nails is used, or no more than white pine.

Here is what the Kretschmer Mfg. Co., of Red Oak, Iowa, says: "A few facts why cypress is the best lumber. It will last longer than any other. It is the only wood impervious to acid. It does not shrink nor swell like other wood. It does not warp nor twist when exposed. It has not the knots and defects found in other lumber. It is lighter; hence less freight."

I can indorse the above, and hope you will give this excellent hive material a fair showing. I haven't any cypress to sell, but can send you a sample of our southern cypress. It may be different from what you used to make sash-frames of.

Pearson, Ga. G. B. CRUM.

[Cypress as a hive material is all right, and under many conditions may be better than white pine, but under others is not as good. When I spoke of pine as being the better of the two, I meant *at the price*. Cypress in the region of most of the bee-hive factories would cost considerably more than white pine. The freight on it from the South to the North would make it quite prohibitive for bee-hive work; and even in your locality, while it seems plentiful, the aggregate supply would be very limited for general purposes.—ED.]

#### FRESH PAINT TO STOP ROBBERING; RUBEROID FOR HIVE-COVERS.

I have a remedy that never fails me for robbing. I take a paint-brush and dip it in a bucket of paint, and draw it across the alighting-board, and sometimes paint the front end of the hive. This may be an old remedy with some, but I don't remember seeing it in print.

I was interested in what Dr. Miller had to say in regard to ruberoid for hive covers. I have had three years' experience with it, not for covers, but for the deck on top of my house, and three porches, which are covered with it. It makes a perfect roof—no odor after the first season. It must be put on a solid smooth surface, as any vibration will cut it out. The weight is about the same as building paper of the same thickness.

Whiteside, Mo.

S. W. SMILEY.

[Fresh paint to stop robbing would probably do very well if the robbing had not progressed too far. Bees dislike carbolic acid about as much as any thing; and I have noticed that mild cases of robbing can be stopped by smearing the entrances with such solution; but nothing, apparently, will stop it when the bees get to going to such an extent that those in the rear crowd those in front on to an offensive substance like paint or carbolic acid. After all, the best cure by all odds is the old-fashioned one of prevention—keeping the entrances of the right size, so that the inmates of the hive can make a proper defense in the first place.—ED.]

#### SAPOLIO FOR REMOVING PROPOLIS.

Did you ever try sapolio for removing propolis from the hands? Just rub a cake over your hands, and the propolis will disappear as by magic. It has just enough grit in it to remove the dirt, and it will make a lather too. It is better than lava soap for the purpose. S. G. KILGORE.

London, Ohio.

[I never tried it, but I am sure it would work. I do know that lava soap is excellent for taking off propolis.—ED.]

#### TWO QUEENS IN ONE CELL.

As I was cutting out queen-cells from a hive last summer I found one cell that had two queens in it. They were white in color, and I judged they would hatch in two or three days. Both were perfectly developed queens in a cell capped over. Did you ever hear of a case like it before?

Knoxville, Iowa. JOHN R. MILLARD.

[Has any one of our readers seen any thing like this before?—ED.]

#### HONEY NOT GRANULATING IN SEVERE COLD.

On page 181 Mr. J. F. Orishaw speaks of honey not granulating in severe cold. I had the same experience this winter for about two months, but in the last two weeks we have had mild weather, and the honey is granulating now.

M. W. HARRINGTON.

Williamsburg, Ia., March 7.

[Your experience is quite in line with our own and that of a number of others who have reported on this question during the last three or four months.—ED.]





Consider the lilies of the field, how they grow; they toil not, neither do they spin; and yet I say unto you that even Solomon in all his glory was not arrayed like one of these.—MATT. 6:28, 29.

How amiable are thy tabernacles, O Lord of hosts!—PSALM 84:1.

It has often been remarked that we have no record that the Savior when here on earth ever smiled. I feel sure, however, that he did, and that they must have been *winning* smiles; and it has occurred to me that perhaps one reason why so many were willing to "leave all and follow" him was because of that wondrous divine and winning smile, or perhaps a pleasant kindly light from his eyes. It is probably true, however, that he did not give much attention to many things that greatly interest us at the present day. One of the infidel writers says Jesus was a sad-faced, disappointed man. This writer apparently never dreamed that the holy scriptures tell us he was a "man of sorrows, and acquainted with grief." And is it to be wondered at, dear friends, that his life was sad and sorrowful when he realized that the sins of the world rested for the time on his feeble human shoulders? Is it at all strange that he had but little sympathy with the frivolities, to say nothing of the sins, of humanity?

Before I leave this matter I wish to say that, in my opinion, notwithstanding his sadness and sorrow, there was what might almost be called a vein of *pleasantry* running through his whole life. Early in his work he attended a wedding. He believed in weddings, and liked to see people get married. I do not know but this is one reason why I feel glad whenever I hear of two young people of the proper age uniting their fortunes. At this wedding, you may remember, his mother came to him mentioning the predicament they were in, in the way of refreshments. His reply would almost seem rude—"Woman, what have I to do with thee? Mine hour is not yet come"—were it not for the fact that he immediately performed that wonderful miracle. She did not take the remark as unkind, because she turned to the servants right after, saying, "Whatsoever he saith unto you, do it."

Now, I think this rough speech of his was more playfulness and *pleasantry* than disrespect. I should not be surprised if he gave his mother one of those wondrous smiles when he said it, so that, instead of feeling hurt, it may have made her motherly heart bound with joy, for *she*, at least, *knew* of his divine mission. Once more, when the Syro-Phenician woman came to him, beseeching him to heal her daughter, the disciples urged him to send her away; and he himself finally replied to her importunities that he was "not sent but unto the lost sheep of the house of Israel;" and

perhaps he turned away from her; but no one can for a moment suppose he intended to rebuke her and hurt her feelings in that way. My opinion is that this woman, by her womanly intuition, and prompted by the love for her child, saw through this *assumed* unfriendliness, and read the kindly thoughts and feelings that were beneath the surface. Is it not possible the dear Savior, amid all his cares and burdens, sometimes dropped back into what we might almost call boyish playfulness? It seems to me this woman, with a mother's love, guessed at something of the kind; and I can imagine the eager smile of hope on her face as she for the time falls in with this vein of *pleasantry*. He takes up the same *role* once more, and tells her "it is not meet to take the children's bread and cast it to the dogs." The Jews had been in the habit of calling the people of her nation "dogs," and therefore Jesus used the term; but she was equal to the occasion. Notwithstanding the second rebuff, she gained in hope and faith. She falls in with his *pleasantry*, and replies, "True, Lord; yet the dogs eat of the crumbs which fall from the master's table."

Then came her reward. Then did he throw off the veil, and come out with his great love for sinful humanity, no matter what nationality. I wonder what his disciples, who urged him to send the woman away, thought as he uttered those wonderful and gracious words, "O woman! great is thy faith; be it unto thee even as thou wilt."

On a third occasion (which I will just notice), on the way to Emmaus, after his crucifixion, he made believe he was going on in order that his comrades might invite him to stop with them. These glimpses of this trait in the Master, of what I have taken the liberty to call boyish playfulness and *pleasantry*, are endearing glimpses, to me, of the wonderful being who lived a human life here on earth, and "spake as never man spake" before or since.

We can read his words and works again and again, and continually get new and precious glimpses of him who was both divine and human; and I have been wondering lately whether, like the rest of us, he had peculiar likes, or, if I may so express it, a fondness for or interest in any special lines of the work of humanity. He did not care much for great buildings; because when the disciples pointed with Jewish pride to the temple he scarcely noticed it; and the only answer he gave was that there should not be left one stone upon another that should not be thrown down.

Now, after this long preface I wish to suggest that Jesus loved the country, the fields of grain, and last but not least, he loved *flowers*. We know he appreciated them and admired them, from the words of our text. We might gather, possibly, also that he had not much more respect and admiration for soft and expensive clothing than he had for costly buildings. And then

he calls our attention to the lilies of the field, and he suggests that no money nor skill of man can deck out a king so as to have him rival or even equal one of these humble flowers. I am greatly interested once more in my life in studying flowers, and seeing them grow; but I do not grow flowers for sale. In fact, I am not growing any thing for sale now worth mentioning. Then the question has come up, "What shall I do with all these flowers that are budding, blooming, and unfolding?" Well, I could give away quite a good many; and this spring, as the "flower committee" belonging to the Endeavor Society has been a little behind in furnishing a display of flowers for the table in front of the pulpit at our church, I have greatly enjoyed doing this myself. When the roads are good, with the help of the automobile I can carry quite a display of plants up to the church early Sunday morning. In this work I have the hearty sympathy and concurrence of our pastor. When building that little greenhouse, and brightening it up with my floral treasures, a good many times I have been disappointed because people generally did not seem to appreciate it. I was never disappointed, however, when Bro. Hill came around. His enthusiasm is fully equal to mine. He takes in even the humblest little plant, and, like myself, loves to pet and care for it. In fact, he has quite a collection of his own—about as many as a minister and his busy wife have time to care for; and when I have duplicates it is a great pleasure to divide with him.

Well, for several years past there have been some very pretty beds of geraniums and other flowering plants on the lawn in front of the church. It just occurred to me a few days ago that I might (or, rather, ought to) help in making the church look beautiful and inviting outside. I made some inquiry as to who attended to the "landscape gardening" around the church. Nobody seemed to know much about it, and I finally asked Bro. Hill who were the members of the committee on that work. With one of his peculiar smiles he simply pointed his thumb toward his vest buttons, giving me no other answer. I replied, "Why, Bro. Hill, you don't mean that *you* have been doing all this work yourself?" but he made no reply except to point his thumb in the same direction, and nod his head.

"But, my dear friend, somebody has furnished money for the bulbs and plants. Who paid for all these things?"

For the third time he answered in the same way, without speaking a word.

"And is there really no committee? Are you in real truth 'it'?"

Then he answered verbally, "I suppose, Bro. Root, I am really '*it*'—at least so far. I presented the matter to the church committee and they thought there had been so many criticisms in regard to the amount of money spent on repairs inside, enlarging the church, etc., that they really had not

any authority, or could not see their way clear, to allow any thing at all for outside decoration in the way of 'posies,' and so I have been doing it all myself. I have nothing to complain of. It has been no great task, and you know I must have some outdoor employment or recreation. This comes in nicely, for, while it improves the looks of things, it is my hobby, and I really enjoy it."

I think I shall have to confess he did not say *all* the above; but as nearly as I can find out the matter is about as I have expressed it. Now, right here is the great point of this Home paper—the kernel or meat of it. Are there any plants or flowers around *your* church? Is there a lawn? Are there nice walks, stone or gravel, when it is muddy? Does your pastor love flowers? Would it gladden his heart or the heart of his good wife if you went to work and had a "surprise party" out in the open air by fixing up the premises, and bringing flowers, not only for decoration day, but something that will last all summer long, and be ready to stock with flowering plants again the following summer, and so on? I need not give you instructions. Your wives and daughters (and sweethearts) will tell you just what to do, and they will hunt up beautiful plants. May be somebody in your community will go to the nearest greenhouse and get not only advice and instruction, but a few plants that will not cost very much. Fix up the house of God, the temple of the Holy Ghost. Teach your children to love, reverence, and respect it. If there are some wayward boys in the Sunday-school who are suffering for want of something to do outdoors, get them to dig up the ground for the mounds and flower-beds. Then somewhere in your community you want to hunt up an old barn where manure has been accumulating for years, and growing weeds. Get a good load of this compost, or two or three loads if you can afford it. Get the Sunday-school interested. The young men and women will work like beavers when you get them agoing. When this Home paper reaches you it will be just the right time of year to get at it. Don't say you have no time for such things. A man once urged as a reason for not doing any thing for the church, that he was in debt. The pastor replied, "My friend, do you not owe at least a little something to God and humanity?" I think this man was a church-member, so he owned up at once that he was in debt to God for his abundant mercies.

"Well, then, dear brother, how happens it that you pay all your others debts first, and leave the debt you owe to God the last of all?"

The reply was, as nearly as I can remember, "Why, to tell the truth I do not know that there is any particular reason why the debt I owe to God is left to be last of all, unless it is that he does not *crowd* me as much or in just exactly the way other people do."

Now, dear friends, do *you* do every thing



else first, and leave God's debt till the last, even though it be true that he is not crowding you? You have children who are growing up around you. A love of flowers may keep them away from saloons and gambling-dens; and because of the flowers they helped to start, may be induced to attend Sunday-school and the preaching services. Suppose you by staying at home and neglecting the house of God and all these things should lay up a "lot of money," and die "well off." What would all this amount to when death comes before you face to face, if with it must be the reflection that your children have, one or more of them, gone astray. "What shall it profit a man if he gain the whole world and lose his own soul?"

While I write, a vivid picture comes into my mind of the little church in Northern Michigan. The young people of the Sunday-school drew on some gravel, and fixed some nice walks around the church, also looked after repairing the roof and steps; and they often bring flowers; but I do not suppose any one of the dear friends has ever thought of a flower-bed in front of the church; and this is to remind them when their old friend gets back once more to the little church among the hills, there is going to be a flower-bed in front of the church, with some choice plants in it. As there is a fine watering-trough, and a never-failing spring just across the road, somebody will see to watering the plants, I am sure, when we have a dry time. Dear reader, can you think of any *similar place* that might be brightened by a bed of flowers? If so, may God give you zeal, courage, and enthusiasm to start the work.

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THE RECENT ADVANCE IN BEE-SUPPLIES;  
ALSO SOMETHING ABOUT PUTTING  
CHRISTIANITY INTO BUSINESS.

A very well-gotten-up bee-journal, entitled the *Rural Bee-keeper*, has recently been started at River Falls, Wis. The issue for May (Vol. I. No. 2) contains the following:

You and I can not agree on the raise in price of bee supplies. I think it is a one-sided game. They are just like the druggists. A few years ago quinine came up one dollar a pound. The druggists all over the country made a great ado and raised the price six dollars a pound. In my opinion that's just what retail lumber dealers and bee-hive manufacturers are doing now. If it is not so, why did the editor of *Gleanings* get off such a load in the last issue. He talks as if he paid fifty or sixty dollars for lumber by the carload. That is where he gives himself away. It beats all what a pious old man A. I. Root is. Can't even write a postal card on Sunday, but it doesn't hurt his conscience to charge fourteen dollars for a German wax-extractor. If it weren't for the patent, I could make one for three dollars, I think.

C. G. ASCHA.

If we have anywhere in these columns or elsewhere "talked as if" we "paid \$50 to \$60 per 1000 feet for hive lumber," we were surely not aware of it. Perhaps our friend refers to page 1004, Dec. 1st, last year, when I said, "Good clear first-class lumber, such as manufacturers are now putting in hives, with few or no knots in, will cost at the planing-mill between \$50

and \$60 per 1000 feet." Cost whom? Does the language imply that the Root Co. was going to pay that figure by the *carload*? It would be the height of nonsense for us to attempt to convey the impression that we were paying from \$50 to \$60 per 1000 feet at the planing-mill, and then claim in the same article we were making hives out of it and giving them to bee-keepers a little above cost (to them) of the lumber. We do it, but *not with lumber for which we pay \$60.00*. The fact is, we buy a special grade of shop stock at the lumber-camps, and "shorts" of large wholesale dealers, out of which, by cutting around the knots, we get a clear stock that would cost the bee keeper \$50 or \$60 at the planing-mill.\* But perhaps our critic has in mind page 174 of this year. This refers to the first article, on page 1004, and *is to the same effect*. If he should possibly take one sentence apart from all others, he *might*, by a good stretch of the imagination, make such a construction as he has given above.

Regarding the wax-extractor which our friend says he can make for \$3.00, our books show that, on the first season's output, we lost money on them, for we were not charging enough to pay expenses, notwithstanding we had just put in the latest machinery and skilled workmen. When our foreman showed us the figures we were compelled, as a matter of business, to advance the price in order to make a fair profit. If Mr. A. will make the same press *as good as the one we make*, at \$3.00, we will give him a large contract for them. Or if he can make them at a cost of \$3.00, why not go into the business of making them—charge a good round profit, and do a big business? There is no patent on them, so he can make and sell where he chooses. But he will find that, when he comes to make a machine to stand enormous strains, inexperienced and careless handling, he will have a job on his hands. It always costs enormously to introduce a new article; and if there is any change in patterns or dies, as there certainly was in the case of our wax press, to stand extra-heavy strains, that is another heavy expense.

As to the personal reference to A. I. Root, who has nothing to do with fixing extortionate (?) prices, he is quite able to answer for himself.—E. R. Root.

A. I. ROOT'S ANSWER.

The residence of Mr. Ascha is not given, and the editor makes no comment on the communication, either by footnote or otherwise. I am sorry to see this—not because it reflects on me particularly, but because it is a bad start for a new bee-journal.

My good friend, I thank you for the high compliment you are paying me in saying I can not even write a postal card on Sunday. I am afraid I do not deserve that; but it is true that I should very much dislike to

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\* We are just having delivered one invoice of 45 cars of hive lumber of this kind, and it didn't come from a planing-mill either.

write a postal card on Sunday on *business*. But you are mistaken in supposing our German wax-extractor is patented. There is no patent on it at all, and, in fact, it is mostly a copy of the one in general use in Germany, hence its name. If you can make them for \$3.00, by all means do so, and we shall not feel hurt a bit, because it will be a great saving to bee-keepers throughout the land. And I firmly believe that those who know A. I. R. best are satisfied he is really working hard to help *bee-keepers* instead of to put dollars into his own pocket. Whenever any of you can make wax-extractors, hives, or any thing else, cheaper than we make them, by all means do so, and we will give you all the assistance we can. GLEANINGS has, from its very start, used its pages in telling people how to do things at home so as to save their money; and whenever you can make any thing we sell, cheaper than to buy it of us, go right ahead and do it, and we will help you.

Perhaps I had better add, for the benefit of friend Asche and others, that it is a good many years since I myself fixed prices on goods we make in our establishment; in fact, it would be out of the question for me at my age to figure up the cost on every thing, in order to see whether our people had the prices too high or too low. My department just now is basswood-trees and seeds of honey-plants; and whenever I find I am overcharging for any of these I should be glad to make it right. Of course, I am a responsible party in the firm; but it is hardly fair to reflect on my Christian character, even if such an establishment as ours *should* get the prices a little steep on some of the articles we manufacture.

It is a bad thing for bee-keepers to quarrel among themselves. God knows we have enemies enough—those who are adulterating honey, for instance—without any cross-firing in our own ranks; and it is bad for *bee-journals* to quarrel. Thank God for the kind and brotherly relations in which the old-established bee-journals are conducted to day; and there is not any “trust” about it either. I think friend Putnam has made a mistake, especially if he wishes to have the older journals extend to him a brotherly hand. We have always supposed him to be a friend of ours, and we can not but think he is that, even yet. I do not feel particularly hurt because my Christianity is challenged; in fact, I am rather glad to have it challenged; and if my life is not in keeping with what I profess, I am sure God will help me in my honest desire to make it so. A. I. R.

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#### FROM CALIFORNIA TO NEVADA.

Here I am for the summer, seeking a livelihood among the alfalfa-fields of Nevada, with a carload of bees. Please send me GLEANINGS, and let my friends know my address. J. M. HAMBAUGH.

Leetville, Churchill Co., Nev.



*Concluded from last issue.*

Just before leaving I went into the spacious packing-room where a great crowd of men and boys were at work putting up plants for shipment. An experienced man takes the order, visits the several green-houses with a suitable tray, and collects the plants needed. Let me explain here that the potting-soil in this establishment for almost every thing is largely clay—more clay than I have seen almost anywhere else. Now, this clayey potting-soil is all right for roses; but *they* seem to make it work finely for almost every thing. It has this advantage: When moistened just right the ball of soil from a two-inch pot can be squeezed up, three or more in a very compact form, the tops of the little plants being all in one direction. They are pressed together with the hand so they adhere and support each other pretty firmly; but when they reach their destination there is no trouble in separating them, so each plant gets the ball of soil that belongs to it. Well, after the three or more are squeezed together as I have described, some sphagnum moss, dampened just right, is put around them, then they are wrapped in clean soft paper. Many florists use old newspapers; but this firm has nothing but new paper made expressly for the purpose. Plants that must be kept quite moist are first wrapped in oiled paper, then in the soft wrapping-paper. These are carefully packed in boxes so arranged that the tops will not get crumpled up; and if the distance is not too great they will reach their customer full of life and vigor.

I believe I enjoyed the packing-room more than almost any other place. Men were constantly coming in with trays of plants of such variety of form and color that I really felt like raising my hands with an exclamation; but the man behind him had another lot just as handsome or more so. Then the expert packers picked them up; and, while they handled them with wonderful dexterity, nothing was injured in the least. Perhaps you have seen somebody with no experience undertake to handle delicate plants; and what bungling work he makes of it! These men seemed to have been trained from childhood up to do that one thing and to do it right. I do not know of any thing in the world I enjoy more than unpacking a lot of nice plants carefully put up; and, particularly so, in doing it in the night-time in that little greenhouse, with the electric light overhead. And then think of going out in the morning, and looking over your plants to see if they are all right! Why, it seems as if you could actually hear them rejoice as they spread out their leaves and begin to assume their normal shape



after their close journey, packed up in a box.

Now in regard to the heading of this talk—managing plants so they will not die. I would recommend starting almost every thing with plants from these little pots. Get them to growing, either in the window, the conservatory, or the little greenhouse; transfer them to a larger pot when they need it, then move them outdoors, say along in May; and, if necessary, give them a little shad or protection until they get used to their surroundings. In this way, if you take pains, a failure is almost impossible. Your investment, instead of being a disappointment and a loss, will result in "a thing of beauty," and it ought to be "a joy" to you for many years if not "for ever."

#### HIGH-PRESSURE FARMING.

On page 308, March 15, I spoke of that wonderful farm of 15 acres, and said that so many articles and clippings had come in in regard to it we should not have room for them. I afterward learned that Mr. Detrich had been speaking at farmers' institutes, and wrote him, offering to pay for a report of the institute addresses. Up to the present time I have had no reply to that request, probably because he has been flooded with so many similar requests; therefore we present the following abbreviated selections from the amount of correspondence on the subject:

*Friend Root:*—On page 243 you have a clipping in regard to the fifteen-acre farm near Philadelphia. I have not visited that place myself, but I am personally acquainted with the proprietor, and have talked with quite a number of farmers who have visited the farm. He keeps the 20 head of thoroughbred Jersey cattle and two and three head of horses, and grows all the rough feed and straw that he needs for that stock on the 15 acres, besides what hay he has to sell. He buys his concentrated feed, such as bran, cottonseed meal, linseed meal, and gluten feed for his cows; has his stables cemented, and saves all the manure, both solid and liquid, and hauls it out every day in the year except Sunday. He uses no commercial fertilizers; but by saving all of the manure from these cattle and horses he has so improved his little farm that it yields enormous crops. You say it occurs to you he must have a large family of boys and girls to help, or employs a great deal of help. He has no family, his wife having died some years ago. He employs one man and one boy, who, with himself, do all the work except when filling the silos. Then he employs additional help. He sells his milk at some large institution in Philadelphia, delivering it every day.

AARON I. WEIDNER.

Arendtsville, Pa., March 7.

*Friend Root:*—In a personal letter to me last November Mr. Detrich writes: "The scientific men have been very much interested in the soil. The chemists from agricultural colleges have been working on the soil, and have found that my soil has 20 millions of bacteria to the one-thirtieth of a cubic inch, four times more bacteria than in any soil previously examined."

The milk is sold to a sanitarium near by at 6½ cts. per quart, and tests 5.8 the year round. But two men are employed, except in rush season, and he attends to his pastoral work besides. As Prof. Bailey writes, he does some common things in an uncommon way.

Stone Ridge, N. Y.

REV. CHAS. L. CLIST.

*Friend Root:*—The doctor is a widower, without a family. A tenant lives upon the farm, with whom he lives. Detrich is a German Reformed minister. He farms 13 acres of the 15; milks 17 cows, and has 27 head of live stock, horses, cows, and heifers; raises only fodders, grasses, etc. Grain is all purchased. Milk is

sold in Philadelphia. The cattle are all fed in the barn. When a man goes to the field for clover, rye, or fodder, he takes a load of manure out. The manure makes the fertility. The chemist of Delaware Station (Prof. Chester) found more bacteria on this soil than any other he ever examined.

WM. H. MILLER.

Guy's Mills, Pa., Mar. 10.

In addition to the above I give place to the following, clipped by one of our subscribers from the Norristown, Pa., *Register*:

The Department of Agriculture at Washington has run against a practical farmer who, for the time being, seems to have called a halt on scientific agricultural exploitation. The farmer in question is Rev. J. D. Detrich, of Flourtown, this county.

Dr. Detrich, 21 years ago, came into possession of a worn out farm of 15 acres, which then had two cows and a horse on it for which they had to be bought. Now Mr. Detrich keeps two horses and 30 to 35 head of cows and young cattle, and is making a large income from the place, feeding every thing from the produce of the 15 acres.

The Department of Agriculture learned last year of his success, and sent an expert to study into his methods. For a couple of days the expert, who was a splendid farmer in a practical as well as a scientific sense, followed Mr. Detrich over every inch of the 15 acres, asking every possible question as to the methods and results. A stenographer came along in the rear, taking down questions and answers.

It was found that Mr. Detrich had succeeded by introducing what is known among those who are "read up on farm matters" as "soiling." He had stumbled on an old book, little seen nowadays, by Josiah Quincy, on the practice of cutting green foliage and feeding it to cows kept in a cool, clean, fly-proof stable, where they would have nothing to do but chew the cud in contentment and profit, and make all the milk possible to be made from the tons of green stuff hauled to their mangers.

Mr. Detrich, with only a man and a boy, had found out how to plant and sow the succession of crops suitable for the process; and by hauling out the manure every day and spreading it on his few acres had made the soil extremely rich and productive. He had built large silos after the modern way of preserving forage in a succulent state for the winter, and he had cut off all the losses and made every thing count for profit.

The department at once recognized that a model farmer had been found, and proposed to issue a bulletin telling of his methods, and their success. It was estimated that Mr. Detrich's practical example would stimulate farmers all over the country to adopt better methods and improve their farms, and increase their crops, and thereby many millions would be added to the yearly output of crops and the total value of farms throughout the United States. Preparations were made to publish the bulletin in large editions, and the government would in a short time have made Mr. Detrich one of the most famous agriculturists of the age, and possibly a candidate for the position of Secretary of Agriculture in some future cabinet.

At this point, however, the plans of the department met with an unexpected obstacle. Mr. Detrich, hearing of the matter, objected to having his farm and home made the Mecca of inquiring brother-agriculturists with all their dreary hours of questions, and the consequent manifold interruptions and hindrances to his farmwork. He told Secretary Wilson that life would be a burden to him if the bulletin were printed, and said he should want to be paid \$20,000 in a lump sum, or a salary of \$2,000 a year for allowing the department to write up himself and his place and his way of farming, so that the thousands of farmers all over the country who were anxious to make money would be tumbling in on him from day to day the year round.

It was called to his attention that Luther Burbank, the celebrated hybridist who has called into being so many fine fruits, flowers, and vegetables, including the good old Burbank potato and Burbank plum, had posted a notice at his beautiful place at Santa Rosa, Cal., to say that visitors who wished to take his time to go over the place were to pay for it at the rate of \$10 an hour; and it was suggested that he could adopt some similar rule. This did not satisfy Mr. Detrich, and he continues to insist that he shall be paid the bonus or the salary, and shows no sign of abating his figures either.

Some of the department scientists have recommend-

ed that his terms be complied with, because the knowledge of what he is doing would be worth, as one expert has estimated it, \$10,000,000 a year to the dairy interests of the country. The secretary has the matter under consideration. It is understood that Mr. Detrich would be expected to allow his farm to become a model farm, where other farmers could go and see how he does things, and he would be able to make just as much as he does now from his crops and his milk, and receive \$2000 a year for having had the brains and the sense to work out a problem that millions of the best farmers of the country have at one time or another had in mind but have not overcome.

Since the above was received, friend Selser has sent us the following clipping:

#### REV. MR. DETRICH'S NEW FIELD.

Rev. J. D. Detrich, of Flourtown, for thirty years pastor of St. Luke's Reformed Church, North Wales, and widely known as a "model farmer," has decided to resign his charge and devote his energy to farming. Rev. Mr. Detrich has become widely known for his success on his fifteen-acre farm in Flourtown. This he recently sold for \$75,000. He will superintend a 340-acre farm at Frazer, on the Pennsylvania Railroad, the farm to be conducted on the same lines as the Flourtown farm.

From this last item it would appear that this celebrated 15-acre farming is for the present ended so far as the skillful agricultural pastor is concerned. Two things now confront us. First, can the man who has purchased the 15 acres keep up the "high pressure"? My opinion is, he can not. Perhaps there is not another man living who can do it unless the former owner stays there (at least a spell) and superintends. He might, however, take a class of boys from an agricultural college, and I should think likely one or more of them might be taught the "trade" so as to manage almost or quite as well as the teacher.

The second one of the two things I had in mind is, "Can Bro. Detrich handle 340 acres in the same way, or any thing like it?" Candidly, I am very much afraid it will be a failure. If he had 40 acres, instead of 340, I should have more faith in the venture.

In closing I would say that the most complete report of this wonderful work is given in two numbers of the *American Agriculturist* for December 6 and 13, 1902. At one time I thought of getting permission to print the whole in pamphlet form; and if the government does not issue a bulletin to cover the ground, I may, perhaps, do so. The *Agriculturist* sent a reporter who asked no end of questions, and the answers were taken down in full. If the farmers of the world would profit by this wonderful object-lesson, I have not a doubt that it would be worth to them the *forty millions*. In fact, agriculture *ought to be doing* something while the scientific world is exploiting radium, wireless telegraphy, etc. We are just told in *Electricity* that Marconi has been offered \$50 a day to print a daily newspaper on board the Cunard line of steamers, so that passengers, when they get up in the morning, can read of the happenings in both England and America (in an abbreviated form of course), instead of waiting for the news until they reach port.

Now, friends, is the agricultural, horticultural, and floricultural world, and market-gardening, going to keep pace with

these other wonderful strides in the scientific world?

#### THE MICHIGAN SILK INDUSTRY.

Some time ago I asked the question whether the raw material for these great factories at Belding was produced in our own country. The following, from the *Grand Rapids Herald*, seems to answer the question. The clipping was sent us by A. H. Dines, Cedar Springs, Michigan.

The Russo-Japanese war has a peculiar significance for Belding, in which the principal industry is silk-manufacturing. The silk-factories employ hundreds of men and women, and a long continuance of the war would mean that they would have to shut down for a lack of raw material. Over half the silk used in the mills comes from Japan, and the remainder comes from China, the firms of the Richardson Silk Co. and the Belding Brothers using only the finest silks, which come from the countries named. At present enough stock is on hand and under shipment to run the mills for several months yet, but not later than long enough to fill the spring orders, the fall sales being extra large.

#### Convention Notice.

MEETING OF TEXAS BEE-KEEPERS' ASSOCIATION, JULY 5 TO 8, 1904.

#### PROGRAM.

Tuesday, July 5, 10 A. M.

Opening exercises, president's address, secretary's report, etc.

Tuesday, 2 P. M.

What are the essential qualities for making a successful bee-keeper?—L. Stachelhausen, Converse, Tex. Present standing of foul-brood in Texas.—Louis H. Scholl, College Station, Tex. The 4x5 section super, and its advantages.—Dr. J. B. Treon, Floresville, Tex.

Tuesday, 8 P. M.

Natural or artificial increase; which is the better?—W. O. Victor, Wharton, Tex. The shallow or divisible, or the regular Langstroth; which?—W. H. Laws, Beeville, Tex.

Wednesday, 9 A. M.

Production and proper grading of section honey.—W. E. Crandall, Floresville, Tex. Importance of uniform standard cans for Texas.—Udo Toepperwein, San Antonio, Tex.

Wednesday, 2 P. M.

Criticism of the Laws baby-nuclei for mating queens.—Discussion led by O. P. Hyde, Floresville, Tex. The St. Louis convention, and when and how to go.—H. H. Hyde, Floresville, Tex.

Wednesday, 8 P. M.

How many colonies will a good range support, and what should a bee-keeper pay for such location?—J. K. Hill, Uvalde, Tex. Successful management of out-apiaries.—Carl Wurth, Floresville, Tex.

Thursday, 9 A. M.

Discussion.

Thursday, 2 P. M.

Convention will open at time named. Come early, and take part.

LOUIS H. SCHOLL,  
Sec'y-Treas. Texas Bee-keepers' Association,  
College Station, Tex.  
O. P. HYDE,  
Committee on Program.

## Red Clover Italian Queens.

Fine Northern bred, originated from best long-tongued Red Clover breeders in United States; three-banded strain work on red clover, bred for business in full colonies under swarming influence; gentleness, honey-gathering, and wintering qualities are prime object. Untested, \$1.00; six, \$5.00; tested, \$2.00; six, \$10.00; select tested, \$3.00. After July 1st deduct 25 per cent. Satisfaction guaranteed. Remit by money-order.

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